The Mining Journal

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FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. XLVIII.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,
Certificated Mining Engineer.
(Formerly Student at the Royal Bergakademie, Clausthal).

SECTION III.

For the purpose of firing charges in mines magneto-electric machines have been used. According to Prof. Abel, however, when these machines are used the explosive mixture of the cap must be of such a nature as readily to explode, and that the electric spark will with certainty spring between the two ends of the wires when placed at a distance of 1-16th in. apart. According to experiments with a machine by Marcus, of Vienna, in the mines of the Wolfsegg Fraunthaler Company only three shots could with certainty be fired at once. When the number of bore holes was increased there was great liability of one if not more of them missing fire, which from the care with which the experiments were conducted lead to the conclusion either that the machine was not strong enough, or that the varying sensitiveness of mixture in the ignition cap led to the ignition of some of the charges before the others, somewhat confirming the opinion of Prof. Abel.

The greatest objection which has hitherto been made against the mode of firing several charges simultaneously by electricity is that in this case the position of the shots with regard to each other and the working place cannot be placed so advantageously as when each shot is placed successively after the firing of the previous one, and in the most favourable place, which will, of course, depend on the contour of the face after the firing of the previous shots, and the presence of any rents in the rock caused by the first shot. According to experiments in the mines at Ramsbeck the advantage is much more than counterbalanced by the greater effect of the shots when fired simultaneously, and the saving of time. There can, however, be but little doubt that a combination of both methods, on the whole, is the most advantageous—namely, to fire the principal shots in the centre of the working face of a level simultaneously; but the four corner shots, and the others necessary to finish the level to its proper size and shape, might be fired afterwards.

The supposed greater effect of a simultaneous explosion of several is not the only, nor perhaps the greatest, advantage obtained with this method of firing. Suppose, for instance, that a large number of men are engaged in driving forward the face of a drift, or in a shaft or quarry of limited dimensions. As soon as a single shot is fired the whole of the men, from 4 to 30 perhaps in number, must retire to some place of safety until after the shot is fired, when they will most leisurely return to their work, or be lowered again down the shaft. The saving of time by firing the charges simultaneously by electricity is much greater from this cause than is generally supposed.

In the successful and economical carrying out of blasting operations, the proper position of the holes, with regard to the contour of the face and the nature of the rock, is of the first importance. The first operation in connection with blasting is the laying bare, either by blasting itself or by cutting or other means, of some portion of the surface, so as to weaken the resistance of the rock, or to cause the direction of least resistance to be in a given position, either with the object of obtaining a greater mass of mineral with the least expense in cutting and blasting material, or to cause the mass to break off in any desired direction. In metalliferous mines all this will greatly depend on the structure of the lode, of the sides and materials forming the sides; in stratified deposits on the structure of the seam or seams, the relative direction of the planes of cleavage. In metalliferous mines, and in the sinking of shafts and driving of drifts the first attack on the mass will generally be by blasting. With regard to the details respecting sinking we shall return to them in a later number. The position in which the first shot should be placed will depend greatly on the dip of the strata, and if, as is most usual, the planes of least cohesion coincide with those of stratification. In this case, when driving a drift, and the dip is towards the face, the first hole may be drilled horizontally near to or at the top of the level, and afterwards the lower portion of the mass may be removed by one or two or more holes drilled in a nearly vertical direction. According to the amount of dip or cohesion between the planes of stratification will be the depth to which the holes are drilled. When the dip is but slight the removal of the upper portion of the level can be carried much further forward in advance of the lower part than when the dip is great. When the dip of the strata is from the face of the level the first shot will be most advantageously placed near to or at the floor of the level, and the rest of the holes successively nearer the top. If the strike of the planes of stratification is in the direction of the level (*i.e.*, at right angles to the face) the shots are, perhaps, best placed in lines parallel to the dip, and the removal of the rock will most advantageously proceed from the centre towards both sides.

In the case of coal seams, or stratified deposits, where the strata are so mild as to permit of the laying bare of one face of mineral by the use of the pick, this is generally effected in the direction of the plane of stratification. In exceptional cases, as in the Königs Mine (coal) in Upper Silesia, it may be found advantageous, even in stratified mines, to effect this with blasting. In most cases, however, it is best to effect this by the aid of the pick.

In coal mines the object is generally to lay bare, besides the face, either the top or bottom side, and the two ends of a long parallelopiped, which has thus four out of the six surfaces free and undetached. The position of the side which is made bare depends on the structure of the seam. If the seam rests upon a thin tender bed of shale, or other layer which is readily cut by the pick, this is, perhaps, the most advantageous position for readily winning the mass. Such a seam of dirt is, perhaps, of most importance in beds under 1 yard in thickness. At other times the dirt parting may be in the middle of the seam, which unless the seam be very thin is also of great advantage to the miner; indeed, at first sight it might appear the most advantageous position of the two, since the work of cutting could be performed in a standing posture, whilst in the former case this must be done in a lying posture. As far as the posture is concerned, however, it appears to be almost immaterial, since a miner who has been accustomed to cutting whilst lying on his side will prefer this to standing, if he has not been accustomed to it. When the cutting is made on the floor, as a rule the coal can be wedged down better than up, favouring a greater production of large coal than is obtained when blasting is resorted to. The seam of coal being generally attached more tenaciously to the floor than the roof. When the seam of parting lies next to the roof this position is the most disadvantageous of all, or it may be even more economical to effect the cutting in the coal itself near the floor, although in this case a very sensible loss of coal is occasioned. In all cases nearly the upper or lower face, as may be, is first laid bare by cutting, and afterwards the two ends, so that the latter may support the coal until the miner has finished. It is usual in most cases, and in this country compulsory, to insert small blocks or cylinders of wood every 6 ft. or so in the holing, to prevent the unexpected fall of the coal whilst the miner is cutting. In addition to these it may be occasionally necessary, owing to the cleavage of the coal, or to cracks produced in it by the weight of the roof, or other causes, to strut the face of the coal by inclined props, to prevent its rolling over, the short vertical props inserted in the undercut. When the holing is made in the middle of the seam sometimes the upper portion of the seam to the depth of the undercut is got first, and in other cases the lower is got the first. In this latter case longer props must be inserted between the floor and the under side of the upper coal to prevent its falling unexpectedly on the men whilst breaking and filling up the lower portion of the bed. These props will be best inserted slightly inclined at the upper end of the face towards the coal. It is often immaterial which is got first, the lower or upper portion of a bed, depending on the momentary convenience or otherwise it gives to the miner (who may one day get the lower part first and the next day the upper part first), on the different qualities of the two portions of the bed, &c. When the roof is bad, and the upper coal pretty strong, it may be best to get the lower portion first; the props can then be kept nearer the face of the coal, the roof does not fall so close to the face, and the lower bed can be got without much trouble on account of dirt falling amongst it. In the district of Liege small portions of the bearing dirt are left to support the coal, in the place of the short props and sprags most usual.

Besides supporting the coal as and whilst it is being undercut it will also be necessary in most cases to support the roof for a short distance behind the face, to keep a road open for the corf, &c., and to prevent the roof falling close to the face, since then only the breadth of the undercut would be available to the miner, and the difficulty of getting the coal greatly increased. On this account one or two rows of props, as the case may require, are carried parallel to the face, and the corf road carried between them, or between the face of the coal and the row nearest the face. Between the roof and the top of the prop a flat piece of wood, technically termed a lid, is inserted, and the prop driven tight into a vertical position with the sledge hammer. If the roof is bad straggling props may require setting in a position most suitable to support any loose part of the roof. To the neglect of proper precautions in setting the props and sprags is to be attributed at least 50 per cent. of the fatal accidents occurring in mines.

We have already in an early number referred to the planes of cleavage in coal, and that advantage is usually taken of this peculiarity of a coal seam to have the back side of the parallelopiped of coal (which has been cut free on four surfaces) to coincide in direction with these planes of cleavage, or least cohesion. The winning of coal in this manner, "on board" as it is technically termed, is sometimes disadvantageous, and especially with a bad roof may lead to the crushing of the coal so much that little besides small coal is obtained.

In metalliferous mines, according to the manner of working, as we shall later see, the mineral is generally laid bare on two faces, or two faces and one end, the hardness of the mass preventing any economical result from attempting to cut the ends or sides, which is effected by blasting. After a portion of the mineral has thus been laid bare, the hole to contain the charge of powder is drilled in the most suitable direction for loosening the mass. In metalliferous mines, or where the rock is comparatively hard, the surface where it is intended to commence drilling the hole is dressed so as to enable the drill to take hold at once and chip the rock without slipping. In coal mines the commencement may be made with the points of the pick. After this the boring commences. Where a hammer is used the blows on the head of the drill are struck lightly until the hole has become so deep as to serve as a sort of a guide for the drill, which is then struck more quickly and heavily, at the same time the drill is slowly rotated between each blow. From 10 to 20 blows should be struck during a single rotation of the drill, otherwise there is a great liability of the formation of corners and projections, which should be immediately effaced by repeating the blow in any position where they are felt, since, if they are allowed to become large, there is great difficulty in their removal. In coal mines the borer itself is generally sufficiently heavy, and the coal is, comparatively speaking, so mild that the boring is most quickly and conveniently effected by hand alone, without the use of a hammer.

When the bore hole in rock is drilled in a downward direction it is usual to fill the bore hole with water, by means of which the dust and powder formed is suspended in the water, and with it spirted out of the hole, so that the chisel strikes the face of the rock instead of falling on a bed of rock dust, giving greater effect. When water is not used, as in coal mines, the fine powder must be scraped out, which occupies time, and the boring is effected less rapidly. When the bore hole is driven upwards in an inclined direction the powder will fall out of itself, and the end of the drill will always act on the clean end of the bore hole. This is, perhaps, one reason of the greater effect obtained by the Italians, who, as we before mentioned, are accustomed to the use of heavy hammers, which they use not by striking downwards, but by swinging from below upwards. The bore holes being thus drilled upwards the powder falls out of itself, the end of the drill always acts on the clean surface of the rock, the time lost in scraping is saved, so that, in spite of the less price at which they take the work, they can, nevertheless, earn more per shift than by the ordinary system of boring. The depth to which the bore hole is carried will depend on the size of the mass to be loosened, the amount of powder to be used, the existence of clefts, &c., in the rock, advantage of which should be always taken; a bore hole, however, which terminates in or near a crack is very unfavourably placed, since the gases developed on explosion may find vent by these instead of loosening the mass.

The amount of powder used is generally fixed by guess-work on the part of the miner, or, at most, in proportion to the depth of the hole, and with some reference to the position of the mass to be loosened with respect to the surrounding rock. The most rational manner is according to a principle enunciated by General Sir J. Burgoyne—to proportion the amount of powder directly to the cubes of the length of the lines of least resistance, the line of least resistance being that in the direction in which the least resistance is offered to the vent of the powder in the air, and for ordinary rock, according to data given, half the cube of the line of least resistance measured in feet expresses the number of ounces of powder suitable for the charge. Thus, for instance, suppose the line of least resistance to measure 4 ft., then the cube of 4 being 64, half of this is 32, so that, according to the above rule, a charge in ordinary rock with a line of least resistance 4 ft. long is 32 ozs., or 2 lbs. of powder, which agrees pretty nearly with ordinary practice. Except where the extra time and labour involved exceed the cost of the extra powder used, the bore hole should not be drilled in the direction of the line of least resistance, for in that case there will be sure to be a waste of powder—part of the powder will be blown out, and the gases will find a partial vent along the bore hole.

One of the best criterions as to whether the proper quantity of powder has been used is the nature of the report when the shot is fired, and the effect of the shot on the mass loosened. When the report is loud and violent it is a pretty sure indication that there has been an excess of powder used, since part of the force spent will have been employed in making the noise; if the mass is greatly shattered, or in coal mines if there is much small coal produced, it is also evident that an excess of powder has been used. On the contrary, when the report is dull without being loud, and the mass has been simply detached and left *in situ* without being shattered, it is a pretty sure evidence that the proper amount of powder has been pretty nearly approximated to. In some cases, as in quarrying limestone, it may be advantageous to use an excess of powder, so as to break the mass into small pieces ready for filling, but in coal mines too much attention cannot well be paid to the proper proportioning of the amount of powder, as a greater amount of small coal is produced thereby where there is no need. On this account in many continental coal and other mines the fixing of the proper amount of powder, as well as the depth and position of the bore hole, is left to the deputy, or a person specially employed for the purpose. Where powder is required to be taken into the mine in cartridges this cannot be adjusted so well as when the powder is poured in loose; this disadvantage, however, can be practically got over by using cartridges of different sizes.

MECHANICAL STOKERS.—In order to afford a uniform intermittent supply of fuel to the stoker or to the furnace from the feed hopper, Mr. CHARLES SMITH, of Burnley, proposes to employ a hopper, the bottom or lower part of which is in communication with a cylinder, one side of which is provided with an opening for the exit of fuel. Within the cylinder is a roller caused to rotate slowly by gear-wheels or other driving apparatus. The periphery of the roller is (at intervals apart) recessed, forming receptacles within which coal (as the receptacle comes under the hopper) is received. The continued rotation brings the receptacle over the exit opening (through the cy
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* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath, Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

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In the successful and economical carrying out of blasting operations, the proper position of the holes, with regard to the contour of the face and the nature of the rock, is of the first importance. The first operation in connection with blasting is the laying bare, either by blasting itself or by cutting or other means, of some portion of the surface, so as to weaken the resistance of the rock, or to cause the direction of least resistance to be in a given position, either with the object of obtaining a greater mass of mineral with the least expense in cutting and blasting material, or to cause the mass to break off in any desired direction. In metalliferous mines all this will greatly depend on the structure of the lode, of the sides and materials forming the sides; in stratified deposits on the structure of the seam or seams, the relative direction of the planes of cleavage. In metalliferous mines, and in the sinking of shafts and driving of drifts the first attack on the mass will generally be by blasting. With regard to the details respecting sinking we shall return to them in a later number. The position in which the first shot should be placed will depend greatly on the dip of the strata, and if, as is most usual, the planes of least cohesion coincide with those of stratification. In this case, when driving a drift, and the dip is towards the face, the first hole may be drilled horizontally near to or at the top of the level, and afterwards the lower portion of the mass may be removed by one or two or more holes drilled in a nearly vertical direction. According to the amount of dip or cohesion between the planes of stratification will be the depth to which the holes are drilled. When the dip is but slight the removal of the upper portion of the level can be carried much further forward in advance of the lower part than when the dip is great. When the dip of the strata is from the face of the level the first shot will be most advantageously placed near to or at the floor of the level, and the rest of the holes successively nearer the top. If the strike of the planes of stratification is in the direction of the level (*i.e.*, at right angles to the face) the shots are, perhaps, best placed in lines parallel to the dip, and the removal of the rock will most advantageously proceed from the centre towards both sides.

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Besides supporting the coal as and whilst it is being undercut it will also be necessary in most cases to support the roof for a short distance behind the face, to keep a road open for the corf, &c., and to prevent the roof falling close to the face, since then only the breadth of the undercut would be available to the miner, and the difficulty of getting the coal greatly increased. On this account one or two rows of props, as the case may require, are carried parallel to the face, and the corf road carried between them, or between the face of the coal and the row nearest the face. Between the roof and the top of the prop a flat piece of wood, technically termed a lid, is inserted, and the prop driven tight into a vertical position with the sledge hammer. If the roof is bad straggling props may require setting in a position most suitable to support any loose part of the roof. To the neglect of proper precautions in setting the props and spragg is to be attributed at least 50 per cent. of the fatal accidents occurring in mines.

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In metalliferous mines, according to the manner of working, as we shall later see, the mineral is generally laid bare on two faces, or two faces and one end, the hardness of the mass preventing any economical result from attempting to cut the ends or sides, which is effected by blasting. After a portion of the mineral has thus been laid bare, the hole to contain the charge of powder is drilled in the most suitable direction for loosening the mass. In metalliferous mines, or where the rock is comparatively hard, the surface where it is intended to commence drilling the hole is dressed so as to enable the drill to take hold at once and chip the rock without slipping. In coal mines the commencement may be made with the points of the pick. After this the boring commences. Where a hammer is used the blows on the head of the drill are struck lightly until the hole has become so deep as to serve as a sort of a guide for the drill, which is then struck more quickly and heavily, at the same time the drill is slowly rotated between each blow. From 10 to 20 blows should be struck during a single rotation of the drill, otherwise there is a great liability of the formation of corners and projections, which should be immediately effaced by repeating the blow in any position where they are felt, since, if they are allowed to become large, there is great difficulty in their removal. In coal mines the borer itself is generally sufficiently heavy, and the coal is, comparatively speaking, so mild that the boring is most quickly and conveniently effected by hand alone, without the use of a hammer.

When the bore hole in rock is drilled in a downward direction it is usual to fill the bore hole with water, by means of which the dust and powder formed is suspended in the water, and with it spirted out of the hole, so that the chisel strikes the face of the rock instead of falling on a bed of rock dust, giving greater effect. When water is not used, as in coal mines, the fine powder must be scraped out, which occupies time, and the boring is effected less rapidly. When the bore hole is driven upwards in an inclined direction the powder will fall out of itself, and the end of the drill will always act on the clean end of the bore hole. This is, perhaps, one reason of the greater effect obtained by the Italians, who, as we before mentioned, are accustomed to the use of heavy hammers, which they use not by striking downwards, but by swinging from below upwards. The bore holes being thus drilled upwards the powder falls out of itself, the end of the drill always acts on the clean surface of the rock, the time lost in scraping is saved, so that, in spite of the less price at which they take the work, they can, nevertheless, earn more per shift than by the ordinary system of boring. The depth to which the bore hole is carried will depend on the size of the mass to be loosened, the amount of powder to be used, the existence of clefts, &c., in the rock, advantage of which should be always taken; a bore hole, however, which terminates in or near a crack is very unfavourably placed, since the gases developed on explosion may find vent by these instead of loosening the mass.

The amount of powder used is generally fixed by guess-work on the part of the miner, or, at most, in proportion to the depth of the hole, and with some reference to the position of the mass to be loosened with respect to the surrounding rock. The most rational manner is according to a principle enunciated by General Sir J. Burgoyne—to proportion the amount of powder directly to the cubes of the length of the lines of least resistance, the line of least resistance being that in the direction in which the least resistance is offered to the vent of the powder in the air, and for ordinary rock, according to data given, half the cube of the line of least resistance measured in feet expresses the number of ounces of powder suitable for the charge. Thus, for instance, suppose the line of least resistance to measure 4 ft., then the cube of 4 being 64, half of this is 32, so that, according to the above rule, a charge in ordinary rock with a line of least resistance 4 ft. long is 32 ozs., or 2 lbs. of powder, which agrees pretty nearly with ordinary practice. Except where the extra time and labour involved exceed the cost of the extra powder used, the bore hole should not be drilled in the direction of the line of least resistance, for in that case there will be sure to be a waste of powder—part of the powder will be blown out, and the gases will find a partial vent along the bore hole.

One of the best criterions as to whether the proper quantity of powder has been used is the nature of the report when the shot is fired, and the effect of the shot on the mass loosened. When the report is loud and violent it is a pretty sure indication that there has been an excess of powder used, since part of the force spent will have been employed in making the noise; if the mass is greatly shattered, or in coal mines if there is much small coal produced, it is also evident that an excess of powder has been used. On the contrary, when the report is dull without being loud, and the mass has been simply detached and left *in situ* without being shattered, it is a pretty sure evidence that the proper amount of powder has been pretty nearly approximated to. In some cases, as in quarrying limestone, it may be advantageous to use an excess of powder, so as to break the mass into small pieces ready for filling, but in coal mines too much attention cannot well be paid to the proper proportioning of the amount of powder, as a greater amount of small coal is produced thereby where there is no need. On this account in many continental coal and other mines the fixing of the proper amount of powder, as well as the depth and position of the bore hole, is left to the deputy, or a person specially employed for the purpose. Where powder is required to be taken into the mine in cartridges this cannot be adjusted so well as when the powder is poured in loose; this disadvantage, however, can be practically got over by using cartridges of different sizes.

MECHANICAL STOKERS.—In order to afford a uniform intermittent supply of fuel to the stoker or to the furnace from the feed hopper, Mr. CHARLES SMITH, of Burnley, proposes to employ a hopper, the bottom or lower part of which is in communication with a cylinder, one side of which is provided with an opening for the exit of fuel. Within the cylinder is a roller caused to rotate slowly by gear-wheels or other driving apparatus. The periphery of the roller is (at intervals apart) recessed, forming receptacles within which coal (as the receptacle comes under the hopper) is received. The continued rotation brings the receptacle over the exit opening (through the cylinder) by way of which the fuel passes to the furnace or to the mechanical stoker, and so as each re passes under the hopper it becomes filled with fuel to be discha on reaching the exit opening. When the flued boiler or double nace is to be supplied there may be one of such apparatus to furnace or stoker, or one apparatus may supply both furnace stokers, for the latter there will be a double incline placed im diately under the exit opening, so that the fuel may pass one p down the incline to the right hand, the other part down the inc to the left hand. It will be obvious that the roller, instead of be entirely enclosed within a cylinder, would answer the same purp if partly enclosed or embraced by a concave neck or concave bot of the hopper.

NICKELIFEROUS MINERALS OF NOVA SCOTIA.

The application of nickel to many new uses during the past years has caused increased interest to be taken in all minerals c taining it, even when the percentage is insufficient to make it, w our present knowledge, commercially valuable, for the progress c stantly being made in the reduction of ores containing several me in such a manner as to recover the whole of them, leads the chem metallurgist to attach importance to researches which some w be inclined to pass by unheeded. From the time when he publis his admirable "Mineralogy of Nova Scotia," Prof. HENRY H D.C.L., of King's College, Windsor, has been recognised as the lead authority on Nova Scotian mineralogy, and he has now supplied the Mineralogical Society of Great Britain and Ireland some v able notes on North American pyrrhotites and other minerals c taining nickel, an abstract of which will be acceptable to the rea of the *Mining Journal*. He remarks that it is a well-known f that pyrrhotite or magnetic iron pyrites frequently, if not invaria contains nickel, generally with cobalt, in various proporti amounting together from traces up to nearly 6 per cent., and t most of the nickel of commerce is derived from this mineral. U examination of varieties of pyrrhotite occurring in Nova Sco New Brunswick, and in the United States, he found that they hibited remarkable differences in the intensity of the magne displayed, which ranges from distinct polarity in the mass dow very feeble attraction by a magnet in the finely-powdered stat the mineral—the most feebly magnetic specimens containing largest percentage of nickel. Four pieces of pyrrhotite from C Breton Island, N.S., were all polar in action on the magnetic nee one strongly so. The mineral was massive, but with somew lamellar structure, associated with quartz, and an average of ana of the whole gave ½ per cent. of oxides of nickel and cobalt, or ra more than ¼ per cent. of metallic nickel, there being a trifling in the operation. A specimen from Nictaux, Annapolis County, which attracts both ends of the needle, gave 0·10 per cent. of nic with a little cobalt. At Latete, New Brunswick, it appears t pyrrhotite occurs in considerable quantities; it is massive, fi granular, and attracts both ends of the needle, and yielded u analysis from 0·09 to 0·80 per cent. of nickel, with a considera portion of cobalt.

Analyses of some specimens of pyrrhotite from Lowell, Mas chusetts, also gave some interesting results. It was handed to P How as a mineral containing 25 to 30 per cent. of nickel; it is fou over a considerable area, and is, it is said, being worked. The mine is coarsely granular, showing no crystals; it occurs with a hig silicious rock, containing a little mica, which runs in veins so times ½ in. thick through the ore in hand specimens. The mag tism is so feeble that it is only perceived by actual contact of finely-powdered mineral with a magnet, when an exceedingly sm quantity is retained; this property, and the similarity in some c racters, and in qualitative composition to Pentlandite, together w the statement as to the amount of nickel present, made a quant tive analysis desirable; and a pure looking piece gave—sulph 33·91; iron, 53·75; nickel, 2·41; gangue, 8·30; magnesia and l 1·63, which show conclusively the individuality of the mineral, respective compositions being—pyrrhotite: sulphur, 40; iron, including nickel (up to 6·2) = 100; and pentlandite: sulphur, iron, 41·9; nickel, 22·1=100. Here the nickel gave no indicatio cobalt. It is remarked that the polar mineral from Cape Bre gave but 0·36 per cent. of nickel, whilst the scarcely magnetic spec from Lowell approaches ten times that amount.

The mispickel from Montague, Halifax County, N.S., freque associated with gold, which it sometimes holds in visible quanti has before been shown to contain cobalt, and Prof. How obtai from a specimen now tested, 0·09 per cent. of metallic cobalt. next specimen of mispickel from Lunenburg County, N.S., was fr a gold district some 50 miles south-west of the preceding. Qual tive tests showed small quantities of both nickel and cobalt. mentions that mispickel occurs here in exceedingly well-defi crystals of brilliant lustre. Referring to the matrix of pickering at Newport, N.S., Prof. How remarks that when, in 1863, he p lished the analysis of pickeringite, which resulted in the establi ment of a new group of salts and minerals (the pseudo alum Odling, and the halotrichite group of Dana), he showed that Nova Scotia mineral contained some 2000ths of nickel and cob and that he failed to find these metals in the rock from which mineral had been formed. He has since found that by treat about 50 grains of the slate, taken by himself from the inter about 2 ft. from the outer edge, with *aqua regia*, distinct evide of the presence of both metals was obtained from the rock, wh looked quite free of any sulphides or other minerals of metallic lu

Some interesting particulars are also given with regard to a sp men of nickel ore from Tilt Cove, Newfoundland, and which pro to be millerite; it was of pure yellow colour, in six-sided crys and plates, associated with pearl spar and quartz, and a green min in small quantity, probably zaratite; it appeared to be very p giving the blow-pipe reactions of sulphur and nickel only; i found at the same place "in leaves like the purest gold," and a in radiated crusts, such as occur at Gap Mine, Pennsylvania, acc ing to a gentleman who said specimens he had seen from Tilt C were like what Prof. How showed him from the United States lo lity named. From the same authority he learned that this spe form but a small part of the nickel ore at Tilt Cove, which is chie kupfernickel occurring in pockets with the copper pyrites so larg mined the last few years. Specimens of this kupfernickel, in Pr How's possession, consist almost entirely of the massive mineral w dolomite. About 113 tons of the ore were shipped in 1869 and following year, but what has been done since he does not kn That the minerals of Nova Scotia and the adjoining provinces worthy the attention of British capitalists has been so frequen asserted in the *Mining Journal* that it is unnecessary to repeat but such facts as those given even in this short paper may be ta as additional evidence that the development of the mineral resour should be no longer neglected.

DIRECT-ACTING FORCE PUMP.—Messrs. Van Pelt and Lee, Texarkana, Arkansas, have patented an invention which has ref ence to an improved direct-acting force pump of extremely simple durable construction, that is adapted particularly to mining other purposes, as no valves are used and no parts are liable to out of order by sand and grit. The invention consists of dire acting plungers that force the water from the cylinders, hav supply holes through bottom channels to a discharge pipe having swinging or sliding cut-off that alternately establishes and interru communication with the cylinder and channels. The top par provided with cylinders and plungers, sliding therein, and bo operated by plunger rods and a fulcrum lever. The water enters cylinder through supply holes at both sides, and is forced by t direct action of the plungers down into the water channels of b part and into a connecting chamber, with which the discharge p communicates. A swinging and balanced cut-off is arranged in c necting chamber at the foot of discharge pipe, and carried by alternating action of the plungers from one side to the other, so to rest on seats of chamber. The cut-off produces the connec of the cylinders with the discharge pipe at the descent of the pl gers, and forces at each stroke the water through one of the chan into the discharge pipe. The pump works in simple and effect

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* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath, Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

ucid address they had heard that evening. He was proud to see Mr. Ness in that room once more. He would carry with him the best wishes of those present. (Applause).——Mr. JOHN FIELD seconded the motion, and said he was glad that a member of their institute had been chosen for the very arduous and delicate task of opening up a valuable coal field and instructing the natives in the art of coal winning.——Mr. JOHN HUGHES supported the motion, which was carried unanimously amid applause.——Mr. NESS briefly replied, and in a humorous manner promised the institute a hearty welcome if they utilised one of their annual excursions by visiting Warora.——The members then inspected the fossils, and various plans prepared by a native. These latter excited general admiration.

Mr. Ness presented the fossils and specimens to the institute. The former comprised parts of fresh-water turtle, Nappeau shells, coprolites, and fishes. The latter, specimens of coal, coke, and iron.

RECENT COPPER EXTRACTING PROCESSES.

A number of processes for the extraction of copper from its ores by the wet way were referred to in an interesting paper read before the Royal Society of New South Wales, by Mr. S. L. BENSUSAN, who remarked that in all these processes the aim has been to extract the metal by processes requiring the smallest outlay in plant, &c., coupled with the minimum expenditure in chemicals and labour. Mr. Bensusan seeks to impress upon mineral explorers that methods are available for giving a value to mining property without preliminary large outlay; but it is not intended to imply that after inexpensive proof of value has been obtained, economy and profit may not better attained by the introduction of labour-saving appliances even at great outlay, though it is urged that the large outlay can be deferred until its justification is definitely and conclusively demonstrated. Referring to the sulphuric acid process in use at the Kapunda, he remarks that they successfully treat an ore with only ⅛ of 1 per cent. of copper. But the conditions there are peculiarly favourable, inasmuch as the mineral operated on consists of a vast heap of many thousands of tons of tailings which have already passed through the dressing machine; consisting principally of oxides and carbonates, it requires no preliminary desulphuration, while the sulphuric acid is made on the spot from iron pyrites, which exists in great abundance on the property. The ore is digested in the acid until all the copper is dissolved out, several successive portions being treated in the same liquor up to the point of saturation; it is then allowed to settle, and run off clear into a large vessel containing scrap iron, which throws down the copper as cement copper. He does not pretend that at many places in New South Wales conditions precisely the same as at Kapunda can be found, but he maintains that there are many places where a little modification of the process may be made with profitable results—where large deposits of copper pyrites exist containing 2 to 3 per cent. of copper, the pyrites itself serving in many cases for providing its own sulphuric acid for the subsequent treatment of the oxidised or desulphurised ores.

According to the Snowden or Lime process, for the success of which the ore should be chiefly sulphurets and limestone, should be obtainable on the ground; the mineral containing copper pyrites is crushed mixed with a small proportion (rarely exceeding 5 per cent.) of burnt lime; the mass is then shaped into bricks roasted at a low heat for a short time, when double decomposition takes place, the sulphide of copper becoming a sulphate, and the lime being converted into sulphide of calcium. The bricks are rapidly crushed, and fall into water, wherein the soluble sulphate is washed out, and subsequently precipitated with hydrogen sulphide. The Hunt and Douglas, Claudet's, and some other processes well known to the readers of the Journal, are described and in conclusion, he remarks that the study of the subject has convinced him that where the extraction of copper is the sole consideration, and where the quality is pretty good, there is no process of reduction more economical and more suitable than the old fashioned smelting process. But where there are difficulties as to fuel or flux, and in new countries where smelting can only be carried on at a disadvantage, he appears to considers the wet process might be advantageously used. The paper contains much valuable information, and will doubtless be widely read.

ELECTRO-MAGNETIC ENGINES.

Some improvements in electro-magnetic engines, which appear well calculated to secure the maximum of power, as the surfaces of the magnet faces and armatures can be increased almost indefinitely, have been invented by Mr. J. H. LOVEL, of Sunderland. These improvements consist in a disc or wheel attached to a shaft, one end of which rests in a bearing fixed on a plate. The other end of the shaft is connected to a crank fixed on a shaft working in bearings. The disc or wheel fixed on the first shaft named is constructed of soft iron, solid or in plates, or of soft iron and other metals; or the disc or wheel may have armatures arranged in sections on or near its periphery, and to or near its centre; around this disc or wheel are arranged electro-magnets at suitable distances, and in number as required by the power desired to be exerted on the crank pin before described.

To the electro-magnets any suitable battery is applied, which, when so applied to the magnets, they then attract the face or periphery of the disc or wheel nearest to one or more of such magnets consecutively; and to effect this continuous consecutive arrangement of attraction from the magnet or magnets, a commutator formed of a dividing plate connected to the crank-axle or shaft rotated, and is worked by a spring or other suitable means from the crank-axle. By these several means an oscillating or undulating rotary action is given to the disc or wheel, and rotary motion to the crank shaft for the purpose of delivering motive-power from such crank shaft. For some purposes he arranges several discs or wheels around the one attached to the crank for additional power, all of which are worked as hereinbefore described, but to apply their force on the central disc or wheel. For some purposes he employs a non-conducting material between the disc or wheel and the magnets, and between the magnets themselves, for the purpose of preventing impact of the several parts.

For some purposes he employs a wheel and pinion in lieu of the crank to give motion to the shaft from which motive-power is to be taken, as described; and for some purposes he fixes the disc or wheel on the crank pin of a shaft rotating in two or more bearings; and when he constructs the periphery of such disc or wheel of soft iron, entire or in sections, or of other suitable metals, he arranges the electro-magnets around the same. By this arrangement the disc or wheel is drawn round from the crank pin for its centre as an eccentric, and rotary motion is given to such crank shaft by the electro-magnet's battery and commutator acting as hereinbefore described. As the improvements are capable of various modifications without departing from the principle thereof, he does not restrict himself to the precise form or dimensions of the several parts, nor to the number of discs or wheels to be employed nor to the metals or batteries to be used, nor to the placing of the magnets around the discs or wheels, as the same may be placed anywhere on the discs or wheels or around the same, nor to the precise arrangement of the several parts thereof.

STEAM-ENGINES.—The invention of Messrs. JURISCH and LEWIS, of Widnes, consists in forcing the exhaust steam of non-condensing steam-engines back into the boiler or boilers, thereby utilising as nearly as possible the full amount of the latent heat contained in the steam. To effect this purpose they employ another boiler or boilers, generating steam of very much higher pressure than that used for the engine. With this higher pressure of steam they operate a suitably arranged steam pump or pumps, pumping the exhaust steam directly from the steam cylinders or through an intermediate reservoir (or they may by preference employ a suitable injector) into the boiler or boilers supplying the engine, the exhaust steam from the steam pump or injector being also forced into the lower pressure or engine boiler. By these means they convert the exhaust steam not only from the steam engine proper, but also from the steam pump or injector, into steam of the pressure of the engine

ner, without valves or suction, and is readily filled at each ward stroke of the plungers as it is submerged in the water. hen the motion of the plunger is stopped the water falls back to the water chambers, and remains cool, without being exposed freezing as in the valved pumps, in which the water is sustained ove the plungers. The pump is not liable to become filled with nd or sediment, so as to get out of order, being thereby of special vantage for pumping gritty or impure water.

THE DISCOVERER OF GOLD IN AUSTRALIA.

As much honour attaches to the first discovery of gold in Australia, is not surprising that our old correspondent—Mr. JOHN PHILLIPS should be anxious, although neither of the Colonial Governments ve yet made him any pecuniary recompense, that his name should t be forgotten, and that it should be kept in record that the justice his claims were recognised even a quarter of a century ago by such en as Sir Roderick Murchison, Sir H. E. F. Young, and other equally ed authorities. Mr. Phillips is at present carrying on the business land and mineral surveyor at Parkes, in New South Wales, and wards the particulars of a property which he considers to be well orthy the attention of British capitalists; but before mentioning is it may be well to refer to his connection with the early history Australian gold discovery. It seems to be felt by many in the stralian colonies that in neglecting to remunerate Mr. John illips, the gentleman who first discovered gold on this continent, scribed it, and made the necessary apparatus for gold mining, s been passed over, and the credit to which he is justly entitled s been wholly ignored, while another individual by some fortuitous circumstances comes in and carries off the laurels he had t y won.

It will be seen from the evidence which will presently be referred that Mr. Phillips arrived in Australia in 1847, and from his scienfic knowledge was convinced that this was a gold country. He arched for the precious metal and found it, made known his discovery in 1848 to the Bishop of Adelaide, to whom he had references m England. He wrote to Sir Charles Lemon, member of the Imrial Parliament, enquiring whether the person finding gold would allowed to extract it from the soil as his own. To this he had a ply, stating that a committee of the House of Commons had recommended that such should be the case. This difficulty being reved he applied to Sir Henry Young, who was then Governor of uth Australia, and sought of his Excellency a portion of the land h gold as a reward for his discovery and labours; but it appears Land Acts in force at the time made no provision for cases of s kind. Being baffled in South Australia he proceeded to Victoria, where he saw the indications of the presence of gold was en greater than in South Australia. He offered his services to Latrobe, the superintendent of what was then known as the vince of Port Phillip. He offered his services to explore that ntry, risking 12 months of his time on the results, leaving to Mr. trobe's generosity and judgment what he might consider an adeate reward, but this gentleman had no desire to encourage such enterprise.

There is evidently no disposition on the part of the colonists to tract from the honour due to the Rev. W. B. Clarke and Mr. Harve, or to any others who have assisted in the development of the ld resources of Australia, but they naturally feel that Mr. Phillips uld be more prominently recognised than either, or at least that should not suffer because he made his discovery before the colo- s were ripe to appreciate it, for it will be apparent that at the e there was a general disinclination on the part of the colonial vernments to encourage the discovery of gold. It was not until e discovery of the precious metal in California had precipitated at comparatively unknown region into a rich and powerful state, wing off from the Australian colonies a large portion of its most terprising and industrious people, that the eyes of the Governents there were opened to its importance. Mr. Hargrave made s discovery known during the excitement as to California. Had announced it sooner, or simultaneously with Mr. Phillips, his ords would have appeared to Sir Deas Thomson as "idle tales," on the announcement of the discovery of gold by Mr. Phillips to r Henry Young, as apparatus "of no practical value." It was the ht to California that demonstrated to our Australian statesmen e practical value of the discovery of gold, and we question very ch whether even the public mind was disposed at the time to much heed to the discovery of our mineral wealth. It was unfortunate for Mr. Phillips that his discoveries were made before nt event took place, and it was simply a piece of good luck on part of Mr. Hargrave that he produced his specks of gold from Huron, which, by the way, were unearthed by Messrs. Tom and ker, and forwarded to the Colonial Secretary, otherwise he would e undoubtedly met with the cold reception that Mr. Phillips did. Writing to Sir Charles Hotham to recommend Mr. Phillips, Sir derick Murchison wrote in July, 1855—"It fell to my lot, as you w, to speculate some years earlier than any other person (1844-46) the probability of gold being a product of Australia, and Mr. illips is the person who first announced to me that he had deed it in your Government (1847). I so stated the fact in my ter of 1848 to the Colonial Secretary—Lord Grey—when I urged on Her Majesty's Government to take the initiative in develop- the auriferous resources of the region. As Mr. Phillips is thus nected with my vaticinations, I should be very happy to serve m, and if it be left in your power to do so you will greatly oblige, dear Sir Charles, your's very truly, Rod. I. Murchison." This letter having reached Sir Charles Hotham during his last illness, its effect to Mr. Phillips was lost, but it leaves no doubt as to Sir Roderick's opinion in the matter, and is certainly a very impotant piece of evidence in favour of Mr. Phillip's claims. It is now remarked that although Mr. Phillips has some employment, it is of so limited a character that his usefulness is comparatively lost to the country, and it is suggested that it would be for the interests of Australia if the Minister for Mines of New South Wales were to avail himself of his abilities, and give him an extensive commission, such at that which was once given to Mr. Hargrave, as it might be of incalculable benefit to this colony, as the development of its mineral wealth may be regarded as only in its infancy.

With regard to the auriferous property referred to, Mr. Phillips has sent ample details for the information of those disposed to take an interest in the matter; but it would be difficult to explain its position with regard to the leads without reference to the diagrams, which, however, can be seen at the *Mining Journal* office, together with the sketch of first gold washing apparatus used in Australia, and which Mr. Phillips designed and erected in 1848, or just 29 years ago.

MINING EXPLORATIONS IN INDIA.

Mr. WALTER NESS, mining engineer, who is engaged by the Government at the Warora coal field, Central India, delivered an address, in the Geological Museum at Dudley, to the members of the South Staffordshire and East Worcestershire Institute of Mining Engineers. The chair was occupied by Mr. HENRY JOHNSON, and there were a large number of members present. Mr. JOHNSON alluded with pride to the fact that Mr. Ness, who had been so successful in India, was a member of their Institute before he left England.—Mr. NESS graphically described his outward journey, giving descriptions of Southampton, Gibraltar, Malta, Alexandria, Port Said, the Suez Canal, town of Suez, Aden, Bombay, and on to Warora. Mr. Ness said he found the work of exploration proceeding, and described with humour the difficulties he had to teach the natives to use the colliers' pick; they had no idea of it, and preferred using a long iron bar to do the holing—a most wasteful manner of using manual labour. He also had considerable difficulty in teaching natives how to wind an engine; the empty skips with which he practised them were pulled over the pulley scores of times. The moment a native found anything wrong he abandoned all hope of direction, and allowed things to take their own course. Mr. Ness gave an idea as to the capabilities of the Warora coal fields by stating that there were by computation 500,000,000 tons of coal within 14 miles. In consequence of the timidity of the natives he had adopted, after training them as pikemen in the ordinary way of getting coal, the long wall system, although the coal was only about an 11-ft. seam. They were able to raise 100 tons a day, and it took three or four natives to do the work of one English collier: 100 tons per day might not seem much, but the effect was wonderful. Previously the natives were listless creatures, who were satisfied with a hand full of rice per day. Now they were busy people, earning honest money by honest toil, decently clad, instead of being in indecent rags, living in better homes, and taking better food. (Hear, hear, and applause.) There was, as a matter of course, considerable fear among the natives as to going down the pit, but, providentially, in the sinking they lost not a finger, and the men took kindly to the work. In fact, he had difficulty in directing their rashness, but found after a little trouble that they were amenable to law and order. He had trained them as blacksmiths and carpenters, although they were perpetually recurring to their ancient modes of work, which were exceedingly wasteful of strengh. About 50 miles from them was a hill, with a rich vein of ironstone, and he calculated that it contained 3,000,000 tons of rich ore; there were similar hills in the neighbourhood. Mr. Ness hoped the time would soon come when the seam would be worked, and iron made in India, which would not interfere with the trade of England, for the more money made in India the better for the home country. India would want 70,000 miles of railway, and he would tell them that when there was a network of railways the question of famine would be settled. There were but 400 miles now in India between plenty and scarcity, but there was the difficulty of transit, and the poor died in thousands. He had seen over and over again food rotting for want of carriage, and he was glad to know that the Government had ordered 200 locomotives and 3000 carriages. They were about to place 11,500 tons of rails; this would clear out some stock, and ultimately do good to trade. Mr. Ness exhibited a large number of fossils, pieces of coal, coke, and specimens of ironstone and iron. He concluded a very interesting address by expressing a hope that the prosperity of England and its great dependency would go hand in hand, as he believed they would.

In answer to questions, Mr. NESS said the coal was not "faulty." Gas had not been seen by him. All the coal raised was used for locomotive purposes. The temperature was as high as 170 in the sun and 115 in the shade; but the climate, since the drainage connected with the sinking of the shafts, was dry and not unpleasant. Calcutta, with its lower temperature, was not so pleasant, because of the moisture of the atmosphere. Their coal was valued at 12s. per ton, but much of this was due to deadweight, which would be reduced when the men could raise more coal by becoming skilled labourers.

Mr. JOHNSON proposed a vote of thanks to Mr. Ness, and said they wanted no further proof of his success in India than the very

boiler, thereby requiring to evaporate a smaller quantity of water than has hitherto been necessary to produce a certain result, consequently effecting a saving of fuel.

Meetings of Public Companies.

CHICAGO SILVER MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Finch-lane, yesterday,

General DAVIDSON in the chair.

Mr. J. E. BRIGGS (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The bullion sold during the year realised 83,961*l*. 14s. 9d., against 107,312*l*. 13s. 11d. for the previous year. The accounts up to Aug. 31, received by the last mail, show that the liabilities amounted to 11,034*l*. 14s.; the assets, consisting of ore, stores, and supplies on hand, &c., were valued at 3408*l*. 19s. 3d., leaving a balance of 7626*l*. 14s. 9d. against the company.

The following is Mr. Godbe's last advices (Sept. 22) respecting the Flavilla:—"The mine continues to improve gradually as work progresses. Concerning a new drift started a few days since, the foreman writes—'It is now cut about 10 ft., the ore is about 1 ft. wide on one side, and 2 ft. on the other, it is first-class ore.' Work on the mine I am happy to say will continue." The accounts received of the condition of the mine from other quarters are also very encouraging; the directors, therefore, believe that if a sufficient sum is raised by debentures to pay off the debts, the fortunes of the company would be speedily re-established. The prospects of the success of the company's suit for the re-possession of part of the Queen of the Hills Mine are regarded favourably by their legal advisers in Utah. The case is expected to be heard during the present month.

The directors regret to say that of late they have had reason to feel much dissatisfied with the management in Utah, and fear that even at this critical juncture the affairs of the company do not receive Mr. Godbe's undivided attention. The whole matter is now receiving the careful consideration of the board. The director to retire in accordance with the Articles of Association, is Colonel the Hon. J. C. Stanley, who, his colleagues regret to say, does not offer himself for re election. The directors do not wish to make any nomination for the vacancy, preferring to leave the choice to the body of the shareholders. Mr. Meggy, the auditor, also retires in accordance with the Articles of Association, and offers himself for re-election. The remuneration of the auditor will also have to be fixed by the meeting.

In answer to recent inquiries, the directors take the present opportunity of stating that if a sufficient sum is not raised upon the debentures to free the properties from the attachments, the amounts paid as deposits for debentures will be promptly returned.

The CHAIRMAN said, at the previous meeting, held a few days ago, the affairs of the company were fully discussed. Since that time the directors had sent the shareholders all the information which they were in power to send in the report of the directors and other circulars, except that during the past few days a telegram had been received from the representatives of the company in Utah. After the meeting a short time since was held the directors thought it necessary to telegraph to their representative in Utah to ask what terms could be made with the creditors, and to this the following reply, dated the 21st inst., had been received:—"Walker Brothers, Wells Fargo's ultimatum: Three-fourths cash, remainder bills, two, four, six months. Interest, 10 per cent. per annum. Personal property, which includes furnaces, will sell, irredeemably, on Nov. 1. 9000*l*. required prior thereto. Outsiders waiting to purchase. Transfers arranged. Letter." This telegram, as the shareholders might imagine, had rather taken the directors by surprise. He did not know what influence was at work in Utah behind the scenes, but it seemed to be very extraordinary that such a telegram should be sent. The effect of it was that unless they found the 9000*l*. the furnaces would go away from the company, and if the furnaces were lost the mines would be of no use. It had appeared more extraordinary, because from the accounts received up to the latest date—Sept. 7—the debts were only stated to amount to 8000*l*., whereas they were now told that to pay a portion of their debts only 9000*l*. would be required, and that parties were waiting to purchase the furnaces. He might state that the amount of money originally supposed to be required was between 5000*l*. and 6000*l*., and that Mr. Godbe had assured them on several occasions that that amount would be quite sufficient to effect a compromise with their creditors. Nearly 6000*l*. had been subscribed towards the debentures, but whether, under the circumstances detailed in the telegram, they would be able to make a compromise he could not say. The directors had telegraphed to Mr. Dunne, of the firm of Richardson, Chadburn, and Company (who were large shareholders in the company), to proceed from San Francisco to the mine to see to matters, and until they received a telegram from that gentleman they could not say positively how the company would stand. They could only wait to see what compromise Mr. Dunne would be able to make with the creditors of the company. A cablegram was also received on Oct. 18, stating—"Flavilla improving: 40 ft. run on level or drift since last report. The present average width of lode at present workings is 2 ft. Extracting ½ ton per man daily. Immediate adjustment fully warranted, and would save heavy costs. Cablegrams received." This was the only information the directors had to give. In telegraphing to Mr. Dunne to proceed to Salt Lake City to prevent the collapse of the company's property, the directors had given him full instructions to act on their behalf.

Mr. WALKER asked when the message was sent to Mr. Dunne?—The CHAIRMAN replied that it was on the 24th inst, but Mr. Dunne had to proceed from California to Utah.

Mr. WALKER asked whether he was to take it that the statement of Mr. Godbe as to the indebtedness of the company was entirely false? At all events, he had stated that it was 6000*l*., and it had now reached 9000*l*.—The CHAIRMAN said the directors were not in a position to say whether the statement was false or true. Mr. Godbe might possibly have meant that 6000*l*. would effect a compromise, not that it would pay off the whole debt and relieve the company from its liabilities. In reply to another question, the Chairman said nearly 6000*l*. had been applied for.

A SHAREHOLDER asked how the directors understood the phrase "transfer arranged" in the cablegram from Judge Dunn?—The CHAIRMAN, in reply, said he took it that an arrangement had been made for the transfer of the Flavilla property from Mr. Godbe to Mr. Dunne. Mr. Godbe had hitherto held the Flavilla in his own name on behalf of the company.

Mr. MARNHAM could not understand how the directors could have given such power to the manager, that he was really able to do what he liked with the company's property. Nine months ago he felt certain that the power given to Mr. Godbe would ultimately result in the company's ruin, and he was afraid that his anticipations were only too well grounded.

A SHAREHOLDER thought it was no good to blame the directors. They had, doubtless, done the best they could for the company. What they had to do was to see how the company could be extracted from its difficulties. (Hear, hear.)

Mr. HYNDMAN (a director) said, without in any way wishing to defend Mr. Godbe, it should be borne in mind that the real cause of the difficulty was that the staple article that the mines produced had fallen nearly 50 per cent. in value in two months, bullion had fallen from 60*s* to a little over 40*s*, so that however good a manager they might have that fact must tell against them. Then there had been a break in the mine. These had been the primary causes of disaster to the company. There were no doubt discrepancies between the statements made by Mr. Godbe and the actual facts, but he did not see that the directors could help that.

A SHAREHOLDER asked why Mr. Godbe had returned bullion when he had to borrow money at 18 per cent.?—Mr. HYNDMAN replied that the bullion was sold as it was raised. But the amount of the advances on bullion did not represent the whole indebtedness of the company, far from it. Nobody had attacked Mr. Godbe more than he had himself, but in dealing with such a question facts must be borne in mind.

Mr. MARNHAM asked why the directors did not curtail the power of the manager when they found that the remittances from the mine ceased?—The CHAIRMAN said when the remittances ceased the mischief had been done, because the bullion contracts had already been made.

The Hon. J. C. STANLEY (a director) said the manager had to buy ore at high rates to fulfil the contracts, and then the price of bullion went down rapidly. No doubt there had been very bad judgement in the matter.

The CHAIRMAN, in reply to a question as to what security the shareholders would have that any funds they might provide would go to release the company from its indebtedness, said it was proposed that any money sent to Utah should be entrusted to some member of the board, or some representative of the company in whom the shareholders would have perfect confidence.

Mr. RICHARDSON remarked that it was quite a mistake to say that it was understood at the previous meeting that the indebtedness of the company was only 6000*l*. What was really stated was that a telegram had been received from Mr. Godbe saying that that sum would pay off the pressing claims.

Mr. ANDREWS asked whether it was a fact that Mr. Godbe in his correspondence with the directors had said that he had made himself personally liable for some of the debts of the company?—Mr. RICHARDSON replied that Mr. Godbe had to some extent backed the bills of the company.

Mr. WALKER asked if the debts had been gradually increasing for months past, and whether Mr. Godbe had informed the board that they were running up to such an amount?—The CHAIRMAN replied that the debts had been accumulating for four or five months, and that the directors were only aware of the amount of indebtedness as the accounts came in.

Mr. ANDREWS said he was informed by the clerk of the company in their office in Salt Lake City in July that there were debts in existence to the extent of $25,000, that ore was being purchased at ruinous prices, and that unless some great improvement (such as had taken place at Flavilla) the company would be ruined.

Mr. MAITLAND observed that the great cause of the unfavourable position of the company arose from the facts that they were not getting much ore from the Flavilla, and to the considerable fall in the prices of silver and lead. He understood, however, that the tide had turned, and that the price of silver was improving, as lead was improving in this country.

Mr. RICHARDSON, replying to a question, said Mr. Godbe held the Flavilla in trust for the company. It was quite the usual thing to put property held by an English company in America into the name of a citizen of the United States—as Mr. Godbe was. Even the large railway companies had their property held in trust by trustees in America. It was understood, however, that the Flavilla had now been transferred to Mr. Dunne.

In the course of some further discussion it was stated that if all the money raised by the issue of the debentures were not required, the surplus would be returned to the shareholder. Mr. Godbe had no claim against the company of which the shareholders were not aware, but the company had claims against Mr. Godbe. The manager had executed a deed stating that he held the Flavilla in trust for the company.

Ultimately it was proposed by Mr. MARNHAM that Mr. Hyndman should be requested to proceed to Utah, with power to represent the company, and to deal with its creditors.—This proposition having been adopted, Mr. HYNDMAN expressed his willingness to undertake the duty requested of him.—On the motion of the CHAIRMAN, seconded by Mr. RICHARDSON, the report of the directors and the accounts were adopted.

The CHAIRMAN said as the retiring director, the Hon. J. C. Stanley, did not seek re-election, it would be for the shareholders to suggest some gentlemen to fill the vancancy. After a short conversation, Mr. Stanley consented to retain his seat until Mr. Hyndman, in whose ability he had the fullest confidence, should return from his mission to America.

Mr. J. Meggy, the auditor, was reappointed.

The meeting was then constituted SPECIAL, and the CHAIRMAN proposed that the following resolution, passed at the special general meeting held on Oct. 2, should be confirmed:—"That the directors be authorised to borrow for the purposes of the company any sum or sums of money not exceeding 12,000*l*., and that the money so borrowed may be raised by debentures or otherwise, and for such time, and on such terms of repayment as the directors may think fit, and at a rate of interest not exceeding 15 per cent. per annum, payable half-yearly, and that any sum so borrowed may also be secured by a mortgage or other charge upon the company's property and profits, or otherwise as the directors may think desirable."—Colonel BIRD seconded the proposition, which was carried unanimously.

On the motion of Mr. WALKER, a vote of thanks was passed to the Chairman, and the proceedings then terminated.

COMBMARTIN.—At a general meeting of adventurers held on Wednesday (Mr. Frederick Thomas in the chair) the accounts showed a debit balance of 212*l*. 9*s*. 2*l*. The agents in their report stated that about 25 fms. east of the 28 end the back of the lode has been opened at surface and found to contain good gossan and lead, such as have not been seen in any other part of the mine, and a pare of men have been placed to drive the 15 under this point, and the 28 will also be driven up to it; and from the fact of the former workers having taken away a quantity of ground at the 15, the agents hope to meet with a good run of lead ground as the 28 and 15 are advanced. The agents also advise the opening upon the back of the lodes westward, and at their junction near a cross-course, at which point the agents are strongly of opinion the celebrated old Combmartin lode, which formerly proved so rich to the west of the present workings, will be met with. The meeting considered that these important and promising features should be developed as rapidly as possible, and made a call of 1*s*. 6*d*. per share for the purpose of meeting the expense of the additional work.

[For remainder of Meetings see to-day's Journal.]

ECHOES FROM THE MINING MARKET.

Owing to the steady appearance of tin in London tin shares have again been in brisk demand. Although some further advances have taken place in quotations, the course of the market will much depend upon the action taken by the Cornish smelters. If the standards are raised it would probably become excited. If, on the other hand, no change is made prices must fall away.

The meeting of the Wheal Owles adventurers at the latter end of last week showed that hopeful views are entertained by many practical men as to the immediate future of the tin trade. Taking the Board of Trade Returns for the past nine months as a clue to the price, it was urged that an early advance might reasonably be expected. What is really wanted, however, is a very substantial improvement in general trade, as with only a slight addition to demand the home market is not in a sufficiently elastic condition to meet the additional imports caused by enhanced prices here. When trade is brisk throughout the world it takes heavily increased imports to exercise a depressing influence, but whilst the demand only about equals the supply a few additional arrivals make a languid and weak market. It is thought by many London merchants that trade cannot show any marked improvement until the Eastern War has been brought to a termination, and as no appreciable advantage—contrary to the expectation of many—has been derived by the tin market from the state of war, in our opinion the necessary element for a continued rise in tin is as yet wanting. It is to a general improvement in trade that we shall look for a solid advance in the value of the metal, and until the former condition is apparent we shall expect an uncertain market.

Lead shares have been very fairly supported, and there are not wanting signs of increased activity amongst investors. Van, from about 30, have advanced to 32½, buyers. We understand that the next sampling will be 550 tons of lead ore, after which it is expected the monthly samplings will reach 600 tons. Rookhope shares are a trifle weaker at the closing quotation, but as the mine is being brought into a much better position an advance may be reasonably anticipated. Roman Gravels are weak at 7⅜ to 8½, and North Laxey at 11*s*. to 13*s*., although there is a very good report to hand from the latter mine. Some demand has existed for South Roman Gravels; the quotation, however, remains at ⅜ to ⅝. The prices of neither Van Consols nor Glyn have altered since the meeting. It was rather expected that, owing to the official statements then made, that a better demand would set in for the shares. This, however, has not been realised, and the quotation for both—if the amalgamation scheme is to be carried the shares are of equal value—remains at ⅜ to ⅝.

In copper shares Parys Mountain are weaker, at 9*s*. to 11*s*. The report of this week is one of the best yet received. West Tolgus has given a dividend of 30*s*. per share (768*l*.) out of a profit of 1441*l*. on two months' working. The shares are 73 to 75 ex div.

At the Crebor meeting a call of 2*s*. per share was made. The accounts showed a loss of 239*l*. on the quarter's working, and a balance of liabilities over assets of 124*l*. As the cash balance against the mine was 173*l*., and a cost sheet of 550*l*. had to be met before the ore bill of this month's sale would be in hand, and costs amounting to 500*l*. will have to be paid before the next sale of ore can take place the call was necessary: 558*l*. is owing to merchants. The costs are charged to the 8th of last month. Copper sale the 18th inst. In future the samplings will take place every two months.

The only important feature that has occurred in foreign mine shares has been the advance of Richmond to 6¼, 7. These shares now stand above the price they were at when judgment was given against the company in the Eureka claim. The appeal is still pending.

JAMES H. CROFTS.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Oct. 23: Profit for the month of September, 8000*l*.

DON PEDRO.—Capt. Vivian, Sept. 24: Considering the force available for breaking, our output is fair. The quality, so far for the month is rather low; however, a change for the better may take place at any moment. All works are progressing favourably both at the mines and the surface. Mine captain's letter dated Sept. 24: The ore raised has been derived from the No. 6 shoot in the back of the new level, from No. 8 shoot, adit level, and a little from the stope opened on a pillar of this shoot at Alice's west. The No. 6 shoot in the eastern stope has been communicated to the new level. As this stope is in old workings and exhausted, it is suspended, and being filled and blocked tight with debris and old timber.—No. 3 Shoot: Little has been done in the stope opened out on a pillar of this shoot at Alice's, as it has been suspended *pro tem* for want of force.—Western Stopes: The branches in this stope in the adit level have been very changeable, but averaging moderate quality ore. We have made an opening on the south side of this stope 14 fms. from the horizon of the adit level to commence stoping down hill on these branches. The branches in the north side opening have become very small and irregular. The ground in the No. 1 eastern stope is somewhat crushed, the old workings beneath not having been properly filled. The branches have been very changeable, but have yielded ordinary quality ore. A stope called No. 3 has been opened on the north side of No. 1 stope. This produces moderate quality ore, and we intend to carry on this stope to ultimately use it as an incline for the transit of ore from the bottom of the mine and the convenience of sending down timber for stoping and other purposes, as may be required. The whim ropes will work through this incline if required.—Prospective and Running Work: The cross-cut from Alice's to Symon's shaft has been communicated and secured. Several repairs have also been made in the plat. Symons's shaft has been repaired to the bottom of Alice's level. Alice's level is still undergoing repairs. The repairing of the No. 1 side level is progressing rapidly. The cross cut from the western stope, No. 8 shoot, towards Symons' shaft has been cleared from debris, and the sets renewed where required.

The Incline from the Adit Level to Symons' Shaft: This incline is newly opened out where it was crushed, and is now in good order from the adit level to the cross cut named above. Commencement has been made to open out some stopes on the north ground of No. 8 shoot above the adit level, which will be carried down hill, and prove the whole of this shoot standing in that direction. We have completed the repairing of the No. 2 pass, adit level.—Dawson's Pumping Machinery: The matching rod to angle bob on Alice's has been changed, and a shorter one connected to take up the rods in the shaft.—Drainage: The water drawn from the mine has been much the same as for some time past. In consequence of the surface water falling off, we have not been able to keep the water in fork, therefore no correct measurement can be made. The permanent pumping machinery works in connection with the above is progressing as rapidly as our force will permit.

— Telegram from Rio, dated Oct. 23: Produce cleaned up (first division of October), 1900 oits.

— Telegram from Rio, dated Oct. 25: New incline tramroad finished.

RICHMOND CONSOLIDATED.—R. Rickard, Oct. 1: Since my last we have struck ore in the 200 level, and have drifted on its course about 20 ft.; we have about 40 ft. to drift to communicate with the Eureka Consolidated workings on the Compromise line, where there is a fine body of ore standing on our side of the line; as soon as this communication is made we shall sink to hole the rise in back of the 400 level. The ore body in back of the 400 is still improving; we have cross cut it at one place, and find its width 50 ft., and very good ore. No. 2 rise is up 80 ft., with very good ore all the distance. The 400 main drift is still in low-grade ore and limestone. The 600 main west drift is looking very promising; within the last 20 ft. drifting we have struck several pockets of discoloured lime and iron ore. The 600 south drift is being driven on the quartzite to come under the ore in the 400; it is very soft ground, and easily worked. Good progress is being made with the winze in the bottom of the 800, on the fissure. The 900 drift is within 10 or 12 ft. of the fissure; we expect to make the communication with the winze some time this month. There is no change in any other part of the mine. The furnaces are doing good work; the returns this week are better than last, and the grade of ore has been higher. Everything both in the mine and furnaces is looking favourable for a very good run.

— Telegram from the mine at Eureka, Nevada:—Week's run, 750 tons of ore (two furnaces); week's produce of refinery, $40,000.

EBERHARDT AND AURORA.—The directors have received a remittance of bullion amounting to about 2000*l*.

FLAGSTAFF (Silver).—The directors have received a dispatch from their manager in Utah, as follows:—The very gratifying result of work for the month of September is—Output 1335 tons, gross yield $44,071; estimated cost, $21,007; profit, $23,064 (equal to 4612*l*. 16*s*. sterling).

BLUE TENT.—D. T. Huges, Sept. 29: We are getting our new reservoir under way, have completed the water culvert and gate, and the ground I well idled around the whole. The culvert is 108 ft. long, and built strong and substantial all through. All the other work is also making fair headway. We are giving the Blue Tent canal a thorough cleaning and overhauling all over it, by so doing will be able next season to carry more water.

HUNTER CONSOLIDATED.—G. P. Armstrong, Sept. 22: Furnace: To completed, but will not start until about Tuesday next, when it is expected Dunne will be here.—Mines: These are looking uncommonly well, especially Crown Point, of which I wrote you in my last; the body of ore which has been struck in this mine continues to look well, there are 200 or 300 tons of ore in sight, to say nothing of the large quantity which evidently lies below; I should not be in the least surprised if 1000 tons of ore were extracted from this chimney in 60 days. The average assay from this chimney of 129 tons was 115 ozs. silver per ton, although this included some very low grade ore from the sides. Where the small chimney intersected with the large they have not taken out much, being fully 8 ft. wide each way, with well-defined walls running straight down, and are now taking out ore by means of a windlass, but it is very slow work. We are running main tunnel south, and in 20 feet will strike the cave, when the ore can easily be taken out with horse power. We shall be able to give you good reports on this mine in the next 60 days.

— Dated San Francisco, Sept. 30: The furnace started Friday the 28th inst. and is running all right, or as well as can be expected for starting, as it is thoroughly dry, yet no trouble is anticipated with it. Mr. Dunne is here now, and is likely to remain longer than he expected, as he got too near the furnace when they were charging it for the first time, and a slight explosion took place caused by the gas from the coal. His face and hands would have blistered had we not kept them bathed in sweet oil and flour. His moustache, eyebrows, and part of his hair were burned off, and his clothes were badly burned, but none of the injuries were serious, though the escape was a narrow one. The mines are looking well; from Crown Point we are taking from 8 to 12 tons ore per day, and soon as the main tunnel is in far enough to connect with the cave, can take much more. There are several hundred tons of ore in sight in this mine, and the body is pitching down. An assay of 29 cars taken out 8-pt. 27 went 129 oz.—Vulcan: We have drifted west from bottom of shaft, and at a distance of 5 ft. have run a cross-cut striking ore in the hanging-wall about 8 ft. from level. The vein is not large, but the simple fact of finding it again is encouraging. The principal work in this mine for the next 60 days will be taking out what there is in sight.

— The following telegram was received on the 22nd inst.:—"The furnace run 4½ days, producing $5000.

I.X.L. (Gold and Silver).—L. Chalmers, Oct. 1: Enclosed please find foreman's report for last week, from which you will see we have again got fairly under for the 400.

— The foreman's reports, Sept. 29: The shaft is started sinking, the pump lowered, and everything is in good order for sinking. The said shaft is now 11 ft. below the 300 station, 3 ft. sunk since started, and is making considerable water on the bottom, but it can be handled to better advantage now—in fact was impossible to sink before, now I think the miners can do good work on the bottom if we do not cut a fresh body of water. We can handle all we have at present. Nothing much has been done in any part of the mine outside of the shaft this week. Everything in and about the mine is running and working well.

MALPASO.—W. S. Welton, Sept. 18: Run No. 38 from Aug. 10 to Sept. 10, during which washing was carried on for 24 days, and 48¾ hours were worked. The produce obtained from the upper sluice was 131·75 ozs. amalgam, valued at $1049·87 10-10ths. The low produce from the above run is very unsatisfactory, and arises from a total change having taken place in the character of the ground. The same hard sand streak that drove us from the north side and west from the workings has presented itself south: first as a thin streak a few inches thick, and then in a distance of 12 ft. it has attained a thickness of 4 ft. 6 in. The increase in thickness is upon the back, and cuts out the rich gravel lying upon the top. Since the clean-up I have sunk a shaft in the bottom left from the run; the shaft was got down 13 ft., and then could not be gone on with on account of the large quantity of water coming in from the bottom and sides. The first 4 ft. sunk was through the sand streak mentioned above, and the remaining 6 ft. through coarse yellow gravel, which does not give a single colour of gold. At the bottom of the shaft we appeared to be coming into a new bed of gravel, and there were no indications of reaching the bed rock. From the appearance of the ground beds in the cuts just made, and in the shaft, it is now quite clear how the returns of last year arose, and it is also quite clear that unless we get in a deeper level our operations must soon come to an end where we are now working. I am of opinion that we shall be able to clean up all the good bottom gravel at one point in about four or five months from this, and in the meantime arrangements must be made for opening up at a lower level. Since the clean up 40 ft. of adit has been added on at the head, and the carpenters have been employed putting up a bridge 80 ft. long near the bulk head. I expect running to be continued this evening.—Ditches: Very extensive repairs have had to be made to the upper portion of the old ditch, and now a bridge 80 ft. long and 18 ft. high is being made near the bulk head. A bridge 120 ft. long a little above the 80 ft. one has been made as soon as possible; after this the old ditch will be in a fair state of repair. At Medina the tunnel has commenced falling in, and hence our short supply of water. From six to eight peons are now employed removing the earth from the top of the level, and timber is being cut to put in new flumes. We have seen a full supply of water.—Future Operations: I propose to continue running down the rich bottom gravel at the head of the sluice, and at the same time to take and wheel into the lower sluice the bottom gravel left by Mr. Clarke; this I can clean up separately to ascertain its precise value. In this manner I expect to be able to make some profit upon the working cost, and as our pipe is not long enough to move back and take up a stope upon the bottam, I shall carry the pipe round to Clarke's original bulk head, and then move the machine back to where Mr. Clarke commenced operations; after this I think we may safely calculate on good returns for a long period.

MALABAR.—G. B. O'Reilly, Sept. 19: Clean-Up: This was completed to-day and has resulted after washing 520 hours, with an average head of water of 900 in., in $860·25. To-day we have the water on again; the result, as I anticipated, is very poor indeed. This is owing not so much to any falling off in the quality of the gravel as to the fact that, although we had the water on for 520 hours the dry weather had diminished our supply from 1600 in. to 800 or 900 in. In a drought has seldom been known in this country, and is quite abnormal. A circumstance which has tended much to diminish the results of the run is due to the fact that a large proportion of our work was expended on running off the clay which had accumulated during the two previous runs; I, therefore, calculate that we did not get more than one half the quantity we generally run off. The present clean up is a partial one, and comprises only 400 ft. of hard sluice, which may be safely reckoned that there is between $200 and $300 still remaining in the sluice and cuts. Owing to the extremely encumbered state of the ground we have been able to do very little at night. The whole front of the mine was blocked with surface boulders and pipe-clay from previous runs, and thus prevented any chance to get at the foot of the bank with our streams. This evil has been partially overcome now, and our run, which begins to day, will probably be made in less time, and prove more productive.

COLORADO UNITED.—G. M. Henty, Oct. 1: Agent's report for September: Having to-day inspected all the points of operation throughout this entire property, and measured the various contracts, I beg to submit the following report. The Terrible engine shaft has been sunk a depth of 1*l* ft. 6 in., and is now at a depth of 75 ft. below the 7th level. The lode is 3 ft. wide, carrying at present a small bunch of mineral on the footwall, but not to value. We have scarcely any water to contend with in this sink. The 7th level, west of engine shaft, has been driven 8 fms. during the past month, opening good reserve ground, averaging 2 tons per fathom of high grade mineral. At present the lode carries 3 in. of good mineral. The 7th drift, east of engine shaft, has not opened up any ground that will pay for stoping. This end has been driven 24 ft. during the past month. At present there is a small branch of mineral in the end, but not of size sufficient to work. In the 6th drift, west of Silver Ore shaft, the lode is 4 ft. wide, with about 2 inches of mineral in the bottom, but there is scarcely any in the breast. A distance of 6 fms. has been driven during the past month. The 5th level, west of Silver Ore shaft, has during the past month been drifted a distance of 3*l* ft., opening up prospects for stoping ground. The Silver Ore shaft is down 18 ft. 6 in. below the 6th level, preparing for this depth 6 in. of mineral of fair quality. No. 1 winze below the 6th level, is down 13 ft., a promising lode, with 6 in. of mineral of excellent quality. No. 2 winze, below the 6th level, is now down 5*l* ft., having been sunk 32 ft. during the past month. At present it will yield ½ ton to the fathom of average mineral.—Silver Ore Tunnel: The contractors have driven during the past month 24 ft. The ground is hard, but smooth heads of ground have facilitated driving. The Union Tunnel has been driven during the past month 24 ft.; the ground continues hard. We have found it necessary to fix a fan and pipes to provide air. The Rose property is yielding well from the stopes. The top tunnel drift was driven 24 ft. last month on a small branch of low grade mineral.—Dressing Works: We have been sending down mineral from the Brown Mine during the past month by wireway. Our machinery, such as it is, has been working well during the month without any breakdown. We have now taken down the old scaffolding, and are making such improvements as will facilitate work in this department, and enable us to work summer and wluter on all classes of mineral, and the better class rock will certainly be dressed clean at a cost of $2 a ton, or even less. Everything will be most substantial and efficient, and justify the outlay of something less than $5000, including a two-boiler engine of 50 horse-power.

CONDES OF CHILI.—Mr. James Seccombe, under date Sept. 11, reports: Up to within the last two days the weather has continued fine, and operations in the mine have progressed favourably. Yesterday and last night a quantity of snow fell, but to day it is again fine, and I hope this little change of weather will not interfere with the traffic.—Deep Adit: During August this level was extended 8 metres, making the present end 1384 metres from the mouth. Four men are employed in it under a contract of 30 metres, at $16 per metre, with a premium of $2 per metre if contract completed by the end of October. In the ground there is very little change to notice.—Seccombe's Shaft: As this shaft will be 70 metres nearer to where the deep adit will intersect the lode than Batters I am pushing forward, and have let a contract to three English miners and six natives to communicate the 18 metre level to it, and extend the same 5 metres west, also to make plats, for the sum of $100; after which to sink the shaft 20 metres below the present bottom, at $12 per metre. The lode in this shaft will yield 1 ton of ore per superficial metre.—Batters' Shaft: The sinking was suspended during the severe weather, and has not yet been resumed. Before doing so levels will be extended a few metres from it east and west at the 50 metre level for plat tackle. There if still a good lode in the bottom, which is 18 metres below the 36.—Shaft Adit: This level is communicated to the drivages east from Dawson's shaft, and there are a few metres more to out through to the shaft for tramroad, after which sinking will be resumed.—Andarivels: Strong winds prevented the completion of the first section on Wednesday last, but I am hourly expecting to hear that it is working, when I shall endeavour to make a contract for the others.—La Vi

...d progress has been made with the buildings, which I expect will be completed by the end of this month. Two jigging machines have been forwarded to ...ine from Corral Quemado, and two more will go in a few days. These will ...d and everything got ready for regular dressing as soon as ores can be de...ed by Antarirels.

...ENBERG.—R. K. Roskilley, Oct. 23: Engine-Shaft: The putting in of skip ...g in this shaft from the 110 to surface is completed, and six of the men are en...d in driving the 110, south of shaft. The lode here for the part being carried ...ft. wide, and producing good stones of copper ore. Behind this end about ...ty-five men employed in cutting through the lode east, so as to ...obtain its full size and value; the lode has a very promising appearance, and is ...ding good stones of copper ore. We have finished putting in tramroad in the ...ke level, and in the course of a day or two we shall begin to lay tramroad ...the 110 lachter level. The lode in the 85 lachter level, driving north of rise, is ...ft. wide, and worth 25*l.* per lachter—a fine looking lode; here we are opening up ...ge of available ore ground. In this level driving south of rise we have ...ded a slide, which has somewhat disordered the lode, and for the present ...become smaller; we shall push on this end in order to see the lode on the ...side of it. The engineer has completed the erection of the drawing-engine, ...the carpenters are busily engaged in putting flooring in the engine house. ...building of the boiler-house is being pushed on with speed, and by Saturday ...we have it high enough to put on the roof and cover it in. The Govern...Inspector intends to test the boiler of the drawing-engine this week; as soon ...has taken place we shall lose no time in getting the boiler built in, so as to ...in readiness for working. All our surface work is being pushed on with ...ch, the engine and pit work are in good condition, and working well.

...ENBERG—C. Craze, Oct. 22: Victoria shaft is being sunk with fair speed, ...the lode here is much the same as when reported on last week. The lode in ...west is looking quite as well as for some time past, and is producing 1 ton ...ft. and 2 tons of blende per fathom. The part of the lode now being cut ...high in the cross-cut behind this end is producing 1 ton of good lead per fathom, ...no signs of wall. The ground in the cross cut at the 22, east of shaft, looks ...ing with branches of blende in it. No change in the 14 east.

...ENSOSA.—Oct. 19: Matienzo Mine: The lode in La Cruz deep adit, driv...north, is 2 ft. wide, composed of calamine and tufaceous rock resembling it; ...is 3 ft. of zinc ore per fathom. The lode in Soldado winze below the adit ...at 3 tons of zinc ore per fathom. The lode in Soldado winze below the adit ...is 2 ft. wide, with a branch of blende 1½ ft. wide on the footwall, ...crossed to 6 ft. wide, with a branch of calamine on the hanging wall. Sinking will ...under of the same width of calamine on the hanging wall. Sinking will ...be suspended to drive at the bottom. This is also valued at 3 tons of zinc ...per fathom.

...AMILLOS.—Oct. 17: In the 40, driving west of San Felipe shaft, there is a ...lode, producing good stones of lead ore, worth ½ ton per fathom. The lode ...the west of San Felipe shaft, has fallen off a little in value, but worth ¾ ton ...fathom. In the 25, west of Abercrombie's, the lode is very regular, and worth ...per fathom. The lode in the 40, west of Abercrombie's, is easy for driving ...ard, and valued at 1 ton per fathom. In the 100, east of Taylor's, the lode has ...not improved in appearance, worth ½ ton per fathom. In the 100, west of ...the lode is unproductive. The lode in the 85, west of San Adriano ...does not contain lead enough to value. In the 60, east of San Victor's, ...lode is still hard and poor. In the 60, west of San Victor's, there is some ...ground being opened out, which is valued at 1 ton per fathom. The lode in ...west of San Carlos shaft, is quite poor. No change has taken place in the ...of San Jose. The lode in the 45, east of Judd's, is of no value. In the ...of Judd's, the lode produces a little lead, but not enough to value. The ...in the 70, east of Judd's, has improved in value, and is now worth 1 ton per ...fathom. The 50, east of Judd's cross cut, continues in a hard unproductive rock. ...the 50, west of Sanchez winze, has again become productive, and is now valued at ...ton per fathom. San Victor's shaft, sinking below the 60, is being pushed on ...as fast as possible. In Placido's winze, below the 50, the lode is small and poor. ...ground in Leon's winze, below the 40, is easy for sinking through.

...TARES.—Oct. 17: The lode in the 120, east of Santo Tomas engine-shaft, ...improving, now worth 1 ton per fathom. In the 100, east of Warne's, there is ...lode, consisting of carbonate of lime and lead ore, worth 1½ ton per fm. ...lode in the 100, west of Warne's, is small and poor. In the 120, south of Peill's, ...lode in the 105, east of San Francisco shaft, has fallen off both in size and ...In the 90, east of San Francisco, there is a regular and well defined lode, ...1 ton per fathom. The lode in the 75, east of San Francisco, contains a few ...of ore, but nothing to value. In the 65, east of San Francisco, the lode is ...ened and poor. In San Tomas engine-shaft, sinking below the 120, good pro...being made. The lode at Warne's engine-shaft, below the 100, is large and ...consisting of carbonate of lime and lead ore, worth 2 tons per fathom. ...San Francisco shaft, below the 90, is being sunk in hard granite. The lode in ...winze, below the 90, is small and poor. In No. 222 winze, below the 75, ...has fallen off a little during the past week—present value, ½ ton per fm. ...Winze Mine: The lode in the 100, west of Taylor's engine-shaft, is disor...by a cross course. In the 90, west of Taylor's, the lode continues unproduc...The lode in the 80, west of Taylor's, is very regular, but does not contain ...In the 100, east of Taylor's, there is a large lode, consisting of calcareous ...intermixed with granite. The lode in the 90, east of Taylor's, contains a ...ne, but not enough to value. The lode in the 80, east of Addis shaft, is large, ...is opening up a good length of productive ground—present value, 2 tons ...fathom. The lode in the 80, east of San Carlos, is small, consisting of quartz. ...lode in the 60, east of Judd's, there is no improvement. The 45, east of Judd's, is in ...hard ground. The lode in Amos' winze, below the 55 fm. level, is small and ...unproductive.

...RUCES.—Oct. 17: Canada Incosa: In the 120, west of O'Shea's engine-...there is a large lode thickly impregnated with lead ore, worth ½ ton per ...In the lode in the 110, west of Judd's, is presenting a better appearance, ...with good stones of ore, valued at ½ ton per fathom. In the 30, east of San ...some good spots of ore have been met with, but not enough to value. The ...in the 40, west of Abercrombie's, has become small and poor, and the ground ...The 50, west of Abercrombie's, is opening good tribute ground, worth ...per fathom. In the 50 east of Abercrombie's, we hope soon to meet with ...in this direction. In the 60, west of San Pedro, the lode is large, but con...very little lead ore. The lode in the 70, west of San Pedro, is wider, and ...a little more ore, now worth ½ ton per fathom. In the 70, east of San ...the lode has slightly fallen off in value during the past few days, but still ...½ ton per fathom. In the 120, east of San Pedro, there is a large lode ...with lead ore, but not enough to attach any value to. In the 110, east of ..., scarcely anything has been done since last report, the men being em...about other work. The lode in the 90, west of Kennedy's, is very large and ...with good lumps of lead ore, it is valued at ¼ ton per fathom. In the ...end of Lowndes, the lode has slightly fallen off in value, and the ground ...some much harder, now worth ½ ton per fathom. The 100 fm. level, east of ...is, continues poor; a few metres further driving, and better ground is ...expected. In the 90, east of Caro's shaft, good ground is being opened out, ...being compact and well defined, worth 1½ ton per fathom. The 80, east ...Tomas' shaft, produces a little ore, but not in a sufficient quantity to ...Good progress is being made in sinking San Pedro's shaft below the 70. ...Kennedy's shaft, below the 50, is being sunk off the lode. Laborde's winze, ...the 80, does not contain ore enough to value. In Christina's winze, below ...the lode is regular, and yields ¼ ton per fathom.

...ADDIS.—The lode in the 130, west of Buenos Amigos shaft, is small and ...unproductive. The 120, west of this shaft, is being driven south on the west side ...cross course in search of the lode. The 13, east of the same shaft, has ...become harder, consequently little progress is being made. The 130, west of ...Addis shaft, is being driven on small valueless branches. In the 130 east the ...lode is regular, and produces ½ ton of ore per fathom. The 120, east of Cox's, ...is present disordered by a small cross course, but will doubtless improve very ...soon. The lode in the 110, east of San Miguel shaft, has decreased in value ...to 5*l.* per fathom, and the ground is much harder. No lode has yet been met ...with in the cross-course, in the 25, west of Swaffield's shaft. In the 55, in ...the same direction, there is scarcely any lode to trace. The 65, west of Palgrave's, ...is not in getting out more water, and we hope to meet soon with good ore ...ground. The lode in the 65, east of Palgraves, is compact, and yields 2 tons of ...lead per fathom—a very fine lode. The 35 east has become poor, and the ground ...in the sinking of Morris's shaft below the 130 has been commenced with a ...full force of men. Mimbre's winze, below the 110, continues poor. Saliente's ...winze below the 100, yields ½ ton of ore per fathom. Ramo's winze, below the ...100, has fallen off in value during the past fortnight. We estimate the raisings for ...the week at 350 tons. The machinery throughout the mine is working well.

AUSTRALIAN MINES.

...ERA BURRA.—Capt. Sanders, Sept. 3: During the past month Morphett's ...shaft has been sunk 2 fms. 2 ft., now down nearly to the depth for last set ...Barring accidents the shaft will be completed to and plat cut at the 100 ...end of present month. During this sinking we have broken some good ...of ore scattered through the lode, but not in sufficient quantities to set a ...open. The 85 north, on Kingston's lode, has been extended 5½ fms.; the ...has been productive the whole of that distance, yielding on an average over ...per cent. ore per fathom; at present it will produce about 25 cwts. per ...fathom. During the past month we have cross-cut east at the 85 from Kingston's ...lode, and cut through Sanders's lode; find it not of sufficient value to justify ...driving in it. When the level on Kingston's lode is extended further north ...of the 85, will cross-cut to this lode again. Have also cross-cut through King...lode 15 ft.; no foot wall yet. The lode is composed almost entirely of quartz, ...specks of ore. The 70, north of Waterhouse's, has been extended 9 feet only, ...men have been engaged weighing last takes ore, about 280 tons, of about ...per cent. Our open work is being pushed on regular, and yielding about the ...quantities of ore. Old pitches in other parts of the mine are still yielding ...quantity of ore. The engines and machinery are all in good order, and ...working well.

...GLISH AUSTRALIAN (Gold).—Mr. Clarke, Fryerstown, Sept. 3: As soon ...mill is properly erected at the prospecting shaft and timbered we propose ...to contract for sinking the shaft a further depth of 150 ft., and as the present ...is still being pushed on Capt. Raisbeck hopes, by a very short cross cut, to ...the bottom of the prospecting shaft. If the end should be driven far enough ...in the prospecting shaft is sunk Capt. Raisbeck purposes to commence sink...the eastern shaft deeper as soon as sufficient money arrives to justify us in ...so. It would not be advisable to start this work until he has driven far ...south to connect the drive with the prospecting shaft. I trust when this ...is complete we shall be able to give a good account of the mine, as Raisbeck ...the mine is better than ever in its prospects.

...ST PHILLIP AND COLONIAL (Gold).—Clunes, Sept. 1: Total quantity ...quartz crushed on the companies' and tributers' account for the month ending ...Sept. 30, 3,138 tons; total gold obtained, 2034 ozs. 12 dwts.; receipts, including ...Sept. 30, obtained from tributers, 4081*l.* 15s. 2d.; payments, including 934*l.* ...for fire-wood, timber, &c., 2743*l.* 0s. 7d.; profit, 1338*l.* 14s. 7d., added to ...the previous month's balance of 2216*l.* 11s. 5d., making an available ...of 3555*l.* 6s. The amount divided between the two companies was 1200*l.*, ...Phillip Company's proportion of which is 780*l.* The balance of 2355*l.* 6s. ...forward to next month's account. Remittance, 80*l.*

...from Melbourne, dated Oct. 20: Month ending Oct. 10—Gold ob...companies' quartz, 653 ozs: gold obtained from tributers' quartz, ...Profit, 264*l.* Remittance, 1500*l.*

...TISH AUSTRALIAN.—The directors have advices from the manager at ...with report from Lambton Colliery to August 29. The sales of coal from August 1 to 29 amounted to 12,000 tons, the month's shipments not being completed when the mail left.

ENGLISH AND AUSTRALIAN (Copper).—Port Adelaide, Sept. 6: The quantity of coal in stock at Port Adelaide was about 952½ tons. At Port Adelaide works there were six furnaces and one refinery at work, and at the Newcastle works eight furnaces and one refinery. No further shipment of copper made.

YORKE PENINSULA.—Capt. Anthony, Sept. 3: Kurilla Lode: At the 45, east of Hall's shaft, the lode has been disordered and broken during the greater part of the past month, but producing occasional patches of good ore, and laying open tribute ground. This drive is now almost up to a point vertical to where the bunch went off into the north side of the drive at the 35, so that we may soon expect to meet with it at the 45. At the 45, driving west of Hall's shaft towards Deeble's and Grainger's shafts, a decided change has come over the lode, which although not yet yielding enough ore to pay is holding out every promise of soon doing so. Besides a large quantity of iron pyrites and good stones of yellow ore there is more water issuing from the lode than from any other part of the mine, and I regard this as a very hopeful sign, as no entirely dry drive has made ore in any part of the mine, and water has always more or less preceded ore. * * * I have let the back of the 45 drive, west of the hauling shaft, to be stoped, at 6*s.* 8*d.* in 1*l.*, by four men. Since letting this pitch it has rapidly improved, and now there is a splendid lode in it, and the men are making extraordinary wages. There are two men working in the back of the 45, east of Hall's shaft (about 20 fathoms), at 10*s.* in 1*l.*, and three others in the back of the 35, east of Hall's, at 9*s.* in 1*l.* . . . . —Morphett's Lode: The engine-shaft is now down about 9½ fms. below the 20, and the lode has quite recovered its former size, quality, and regularity; it is worth 7 tons of 16 per cent. ore per fathom. At the 20 east the drive continues to lay open tribute ground. . . . . At the 20 west the winze is down, and holed to the drive; for a few feet in length the lode is 2 ft. wide, of very rich ore, but the face of the drive is not so good, but opening tribute ground. These exploratory works have laid open a tribute pitch on the east of the winze, and will during the coming month get another ready for letting. Seven men are now working on tribute on this lode at 6*s.* 9*d.* in 1*l.*; this, however, will hardly be sustained in the coming "take," but the reserve west will fully make up for it. On the whole, this lode is opening out well, and should the 30 east and west drives sustain the character of the lode in the shaft as it exists from the 20 down to the present bottom, and of which there can be no reasonable doubt, our returns will be greatly augmented as soon as stoping is commenced there. . . . . On the whole, the prospects of the mine were never so good as now, and nothing seems wanting to develope it into a large and profitable concern but more labour and the necessary machinery, as pointed out in my former reports.—Ore Returns: Including the 100 tons mentioned in the last report, there have been shipped 300 tons of ore, valued at 3085*l.* net. This left ore on hand at the date of Captain Anthony's report of the estimated value of 2815*l.* net at the present low price of copper.

CENTRAL FOXDALE MINE.

Oct. 18.—I beg to hand you the following report of this mine for the meeting on Tuesday next:—Engine-Shaft: The shaft is being sunk below the 105, and is down 6 ft.; when 2 fms. deep a little time will be required in fixing cistern and changing the lift, after which sinking will be continued without interruption, and I have no doubt good progress will be made in reaching the next level. The 105 fm. level has been extended west 15 fms. from the cross-cut. The lode in the present end is 4 ft. wide, containing a good mixture of lead ore, worth fully 10*l.* per fathom, and very promising. I consider there are good indications of success in driving in this direction, and would urge a speedy development. The 105 east has been driven about 25 fms. from the cross-cut; the lode has been disordered for some distance, but seldom without ore, although not in quantities to value. In the forebreast the lode is from 10 to 12 ft. wide, and driving has been principally made on the hanging side. We are now cross cutting to the footwall side to prove its character and value. The result shall be communicated to you in due ecurse. The 90 west has been extended about 42 fms, and is at present suspended. A fall from the roof of the level prevents me examining the forebreast, but I have been given to understand the lode is of an encouraging character, and contains a little ore. The 90 east has been driven 70 fms.; the lode in the end is 4 ft. wide, yielding good stones of ore. A strong feed of water issues from the lode, and we are daily looking for a profitable improvement. The pitch in back of this level is worth 3 tons of lead ore per fathom, with every prospect of continuance. This run of ore appears to have taken off into the south side, in the 75, where we intend putting out a cross-cut to ascertain its value. The pitch in back of the 75 is worth 10 cwts. of lead ore per fathom. In the 60 east the rise in the back of this level, with a view to communicate with the 40, is at the required height, and we have commenced to cross-cut to the north lode to meet the level from Taylor's shaft. This completed, free ventilation will be effected throughout the mine.

Taylor's Shaft: The 75 east has been driven 16 fms; the ground is favourable for progress, the lode producing saving work for lead ore. In about 5 fms. further driving we shall junction with the caunter lode, where a great improvement is looked for. The west level has been extended 12 fms.; the lode in the end is 6 ft. wide, worth 20*l.* per fathom for lead ors, and opening up profitable stoping ground. The pitch in bottom of the 55 is worth 10 cwts. of lead per fathom. The 40 west, on north lode, is extended 25 fms.; the object is to communicate with the cross-cut from the rise in back of the 60 fm. level before mentioned. The lode is producing occasional stones of ore; the distance we have to drive is about 10 fms. The pitch in the adit level is worth 15 cwts. of lead per fathom. Footway shaft, upon the north lode, is sunk to the adit level. A level is being driven west to unwater Nos. 1 and 2 pitches, worked upon from surface, and from which several tons of lead ore have been raised, and tributers can at once be put to raise ore immediately this communication has been made. I may here remark that the mine requires careful development, and particular attention should be directed towards deepening the engine shaft as speedily as possible. Cross cuts should be put out frequently to prove the worth and value of the lode, and further to intersect the caunter lode and branches gone off from the main lode. The returns, I need scarcely remark, will depend upon the success of our explorations. The lode being so subject to making bunches of ore, the larger the extent worked the more returns can be made. At present we are returning 20 tons of lead ore per month, which we can promise to continue; and, with the additional trials contemplated to be made, we anticipate permanent discoveries, and thereby give a corresponding increase to our returns.—W. T. HARRIS.

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"Well comrades," says Jan Temby, "how do ee feel after a good denner?" "For my part," says Uncle Henny, "I feel purty and comfortable in my mind towards everybody, and a cheeld might play weth me." I'm sure I can say the same," says Jan Jewill, "and I'll agree as we all feel so fitty and easy in our minds, tho' times is bad, that we'll have a good steff jug of toddy, and while we're enjoying ourselves a bit I've no doubt we shall hear something new from Old Tom. What dost a say, old fellow?" "What I've got to say," says Old Tom, "is like this here, and es a deep subject, and I'm afear'd I can't do justice to un, but, av coose, I'll try, and ef I make mistakes there is no stranger here to find fault. Now, men, you know as well as I can tell ee, that our bals can't stand with the present price for tin and copper, and so long as Chile, and Australia, and other countries is above the sea level the price will be lower before a es higher. And cutting down the poor bal maidens' wages es no more good than throwing stones agen the wind. Putting in capns to-day and turning them away to-morrow es no good. 'Tes no time when all the bals es jest scut up to tell about smelting tin, and when 'tes 60*l.* or 70*l.* a ton the smelting plan is sure to go sleep. And I tell ee, men, ef our bals are to be kept going, there must be no secrets in the management. People may say what the mind to, but I say tes not honest to give dividends when a bal is thousands of pounds in debt. And I don't know at all how tes so that the same thing was blamed in West Basset and praised in Carn Brea. No, no, comrades, 'les have the plain truth always; but, ef we are to keep on our legs, we must discover more mineral at less cost, and we must raise it and dress it much cheaper than now. All must be changed from top to bottom; not only now but always, or else we shall all soon go to the bottom. The tomfoolery of one man managing a dozen bals must be knacked in the head. It es so much as any man can do, and do his business fitty and honestly, to manage one mine 250 or 300 fathoms deep. If a man wish to be a roun'en inspector, like a rounden preacher, he can do so, but he should'nt have a fixed salary from any bal. Depend upon it this plan would knack the conceit out of a good many big swells going about the country." "I agree with thee, Old Tom, entirely," says Jemmy Dowa, "and so do all our comrades, but we want to hear a bit about the 'deep subject.'t "Well," says Old Tom, "I'm coming to un, and it es this—we mus" have more mineral, and we must have it cheaper, or we can't fight the furriner. I would drive a cross-cut south in the 200 fm. level in Stray Park Mine right into Beacon Hill, and I would drive a cross-cut south in Dolcoath Mine in the 200 or 300 fm. level into Carn Entral Hill, and also a cross cut south in Carn Brea Mine, in the 200 or 250 fm. level, into Carn Brea Hill. This work should be done by boring machines, and the cross-cuts should be 8 ft. high and 6 ft. wide; and tes my opinion, and where's the man that can contradict it, that the there cross-cuts would discover mineral enough to last to the end of the world. And then, as we've often talked about in this here room, there is scores of miles of good lodes all about us never touched yet; and if the're worked as the ought to be, by sinking at once on the coose of the lode, and prove'n as you go, instead of waiting for years, and wasting thousan ls in down right shafts, there would be new ground turned to account, and mineral produced at a price that would beat the furriner out of the market. Now, men, you have heard my 'deep subject,' and also what may be done in 'new ground,' and you can turn un and twist un how you mind to." "I must admit," says Uncle Henny, "that Old Tom has introduced a 'deep subject,' and I firmly believe that the three deep cross-cuts would lay open an amount of mineral wealth that would astonish the world; for, according to my notions of mining, even in our deepest mines, we are only just scratching on the vast wealth that is contained in our great lodes; but I never hear of the waste of time and money in sinking downright shafts but I think of a little bal not 20 miles to the west of Camborne. The sett was found to have seven or eight lodes, and it was decided by Capt. Jack, the manager, to sink a downright engine-shaft in a central place to take the main lode at the 60 fm. level. All went well until they got down 40 fms., when a bed of ironstone as hard as an anvil was reached. Capt. Jack didn't know what to do, but at last it was agreed to try one of the side lodes by a flat-rod, and sink away on the course of the lode; the prospects were so encouraging that another flat-rod was fixed to try a second lode, and also the third and fourth lodes, and when the concern had a prosperous appearance Capt. A. V. was called in to give his report, &c. After he had examined all the surface works Capt. Jack asked what he thought of the bal. 'I should think, Capt. Jack,' says Capt. A., 'that thy mother longed for flat-rods.'" "I wonder," says Jan Jewill, "how much time and money have been lost in sinking downright shafts?" "That's a question," says Cousin Will, "that would puzzle the adventurers to answer."—*From Cousin Jack's Unpublished MSS.*

AUTOXYDE SAFETY-LAMP.—An improved safety-lamp is at present being manufactured by Mr. A. B. BOULLENOT, sen., of Issy-sur Seine, near Paris, the leading principle of which is that the compressed air which is furnished to the lamp in quantities just sufficient to ensure perfect combustion is taken from outside the mine, or at least from a part of the mine which is free from fire-damp. The exterior air is conducted to the lamps inside the mine by means of an iron pipe. The air so distributed to the lamps is submitted to a variable pressure according as the lamps are placed at a more or less distance from the reservoir of air or from the cisterns, which can be placed at different points in the mine. The principle of the inventor then rests essentially upon the canalisation of the exterior air after the manner of the canalisation of gas for the lighting of towns. This lamp repels on the one side the carbonate hydrogen gas, while at every instant it is purified from the carbonic acid produced from the combustion; solid iron bars protect and enclose it. The wick is fed with oil by the principle of capillarity; it is necessary only to measure the quantity of oil to know the number of hours one wishes the lamp to burn, or to make a bigger lamp. Fixed at different points in the mine it serves the miner with light in every direction by means of a reflector, which can be turned round at will; however, in case of need, the lamp may be carried by an experienced miner, because small vulcanised india-rubber may be affixed to any of the air taps which are placed along the principal tube. The whole apparatus is composed of two parts, which are connected by the iron tube which conveys the air from outside the mine. First, there is the generator or reservoir, which is always furnished with air by the aid of a bellows, moved by the eccentric of a steam-engine near the pit, the pumping-engine for example; and then there is the lamp itself, which is so made that it can be screwed to the tubing, which is attached to the main air-pump. The lamps are to be fixed in the mine, and it is remarked that the incontestible utility of this system of lamps at fixed distances, and that which is its principle, is that the miner cannot interfere with it nor open it, hence it is like the gas system in the streets of a town under the supervision of a special officer attending to the lighting of the mine, which will lessen the chances of accident. From a short distance it can also furnish air to explorers provided with air-tight dresses such as are commonly used by divers.

SAFETY-LAMPS FOR BURNING PETROLEUM OIL.—According to the invention of M. LIETAR, of Molembech, St. Jean, near Brussels, the vessel or reservoir holding the oil is divided into two parts by a horizontal partition, which may be curved or of any suitable form. The said partition separates the upper part of the said vessel or reservoir from the lower part, the two said parts communicating together by a small aperture, through which the oil from the upper part may pass into the lower part. The wick is enclosed in a metal tube, by preference flat which extends to nearly the bottom of the oil vessel or reservoir, being terminated at the bottom by a cap, in which is a very small hole for the admission of oil to the wick. A cylindrical cup is soldered or fixed to the outside of the said tube, and screws into a collar or flange formed in the centre of the partition aforesaid, so that the wick tube is by it fixed in position. Upon the said cup fit the ordinary adjustments, which with the top of the wick tube from the burner. Round the lower part of the said cup is a series of holes opening into the upper part of the oil vessel or reservoir, and opening into the said cup is a series of holes in the wick tube, by which holes, if the lamp be upset, the oil in the wick tube passes into the said cup, and from thence into the upper compartment of the oil reservoir. From the foregoing description it will be understood that by means of the arrangement described the wick is kept quite separate from the oil in the reservoir, with which it communicates only by the minute aperture in the bottom of the tube, which tube is made to contain the smallest quantity possible of oil, due regard being had to the proper burning of the lamp; and also that as the oil reservoir is divided into two parts by the partition hereinbefore described, into which partition the wick tube is screwed tightly, if the lamp be upset the oil contained in the said wick tube flows into the cylindrical cup before described, and from thence into the upper part of the reservoir; also that the partition described isolates the oil from the flame, which cannot heat the said oil nor produce explosive gas therefrom.

IMPROVED HYDRUALIC ELEVATOR.—Mr. GEORGE BALL, of Springfield, Illinois, has patented an invention designed to furnish an apparatus for removing piles, steel ingots, and other heavy pieces of iron and steel from heating furnaces; also for removing, in packing-houses, dead animals from scalding vats, and for other purposes; and the invention consists of a steam or hydraulic ram, connected by suitable transmitting pulleys and ropes with standards of the different furnaces, the ram being operated by starting cords connected to the steam entrance valve, and provided with devices for exhausting the cylinder and cushioning the ram piston. For the purpose of removing a pile or other body from the furnace the cushioning and exhaust rod tappets on the ram are adjusted to give a stroke equal to one-half length of the distance to which the pile is to be moved. The buggy is placed under the fore plate of the furnace-door, when the heater's helper takes the tongue attached to the chain, introduces them into the furnace, and grasps the pile. The helper assumes a position near the starting rope, and when all is ready pulls the same, at first gradually, to take up the slack of the same. Steam is thereby admitted into the cylinder of the ram, the piston propelled upward, the line of rope taken up, and the pile delivered on the buggy in good shape. The starting rope is then released by the helper, so that the spring of the lever shuts off the steam, exhausting that in the cylinder, and causing the piston-head to return to its original place ready for the next pull. In case the spring should fail to work, the whole stroke is made by the piston until the cross-head strikes the exhaust tappet, accomplishes the exhaust, and shuts off the steam, bringing the piston back to rest.

RE-OPENING OF CADZOW COLLIERY.—An event of great consequence to the district has just occurred in the re-opening of Cadzow Colliery, which, in consequence of the fire that broke out in the workings on June 26, has been at a standstill for four months. Readers will remember that the fire attained such proportions that the only practicable means of gaining the mastery over it was to close the whole of the mines, which was accomplished by hermetically sealing the mouths of the shafts and air-courses. Matters remained in this position for a space of two months. The water in that time accumulated and flooded the workings, and in the absence of air to feed the flame, every hope at the end of that period was entertained that the burning had been suppressed. The powerful Cornish engine at the works was set to work to remove the water, an operation which occupied nearly other two months. A descent was then made into the workings to ascertain the state of the roads. Contrary to every expectation, the damage was found to be quite nominal, caused for the most part by falls from the roof. The brief period of fifteen days sufficed to set things to rights, and a large number of miners having been taken on the coal is once more on the market. Colonel Austine and Mr. Ralph Moore, Government Inspector, examined the workings, and found them free of gas. The successful manner in which this great catastrophe has been retrieved reflects very highly on the management.—*Glasgow Herald.*

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Oct. 24: The new shaft is now down 13 fms. 5 ft. below the deep adit level. We have got through the hard foot of ground we met with a fortnight ago, and the ground is more favourable for sinking.

ASSHETON.—J. Craze, J. Manley, Oct. 25: The following is the setting report for the month ending Nov. 10:—The 60 east of boundary is now extended to within about 7 fms. of Browne's shaft. We have recently intersected a cross branch about 6 or 7 in. wide of spar and blende, and spotted with lead and mundic, and lets out a good deal of water; this branch has changed the character of the lode, which is now much more favourable for progress, and yields more blende than for some past; on the whole, the end presents a more promising appearance than for a long time, since we would also remark that this end drains Browna's shaft; set to two men, at 10l. 8s. per fathom. The lode in the 50 east of Mawr, driving south on the north and south lode, is 4 ft. wide, of spar, blende, copper, and stones of lead ore, but not to value. We have suspended this end for a short time, and the men are now engaged since a winze in the bottom of the 20 on north and south lode not yet set. The 20 east of Mawr south, on north and south lode, is set to four men, at 4l 10s. per fathom; the lode in the present end is from 4 to 5 ft. wide, producing a little lead, but not to value. A rise in back of this level towards red sink has been set to two men, at 3l. per fathom; lode at present unproductive.—Tribute Department: We have set the following tribute pitches for lead ore:—Two men in back of the 50, east of boundary, at 4l. 7s. 6d. per ton. Two men in back of the 40, east of boundary, at 7l. 10s. per ton. Two men in bottom of the 40, west of Browne's, at 7l. 10s. per ton. Two men in bottom of the 40, east of Browne's, at 8l. per ton. Two men in back of the 50, west of Mawr, at 4l. 15s. per ton. Two men in the back of 50, east of Mawr, at 7l. per ton. Two men in back of the 50, east of Mawr, at 7l. 10s. per ton. Two men in back of the 50, east of Mawr, at 7l. 10s. per ton. Two men in the back of the 20, east of Mawr, on north and south lode, at 7l. 10s. per ton. Two men in back of the 40, west of Mawr, at 7l. 8s. per ton. Two men in back of the 20, west of Mawr, at 7l. 10s. per fathom. Two men in the back of the adit, on north and south lode, south of Lindow's, at 7l. 8s.—Surface: We have this day started our new jigging machines, and we are happy to state that they work splendidly; these will enable us to reduce our dressing cost very considerably. The erection of these jiggers have thrown us back pretty much in dressing during the past week, but we hope to sample our usual quantity of lead—30 tons—on Saturday next, for sale Nov. 5.

BEDFORD UNITED.—R. Goldsworthy, William Phillips, Oct. 25: There is no change to notice in any of the bargains throughout the mine since the report for the meeting.

BICTON CONSOLS.—George Spargo, Oct. 23: North Side of Valley: We have opened on the longitudinal course of the lode at this point at four different places, varying in distance from No. 1 pit to 50 yards, and in depth from 5 ft. to 14 ft.; the appearance of the lode is beyond my expectation for the depth seen. At the deepest point it yields some good lead ore, as per sample forwarded this day. The men are now engaged opening it up about midway as nearly as possible to where discovered in the south side of the valley, and when sufficiently opened upon I will report to you its appearance, &c.—South Side of Valley: We have discovered the lode this side of the valley a distance to where seen in the north side of fully ¾ of a mile, and opened on its course towards the north side a distance of 120 yards, and in depth at the different points of from 6 to 12 ft.; a box of gossan broken from the deepest point I have forwarded to you. I have thought it advisable, so as to ascertain its underlie, &c., to sink a few feet deeper in No. 2 pit. The men are now engaged erecting windlass, &c., for this purpose. After we get a few feet deeper I shall be in a better position to report on its merits, &c. The sawyers are engaged cutting up timber for the necessary requirements, and all points of operation will be pushed on with the utmost speed.

BODIDRIS.—H. Hotchkiss, Oct. 24: The lode in the 70 west is over 2 ft. wide, with two well-defined walls, and contains all the elements that are necessary to indicate a near approach to a good course of ore; the last hole fired near the bottom of the level broke some beautiful specimens of lead ore. The 60 east is progressing very satisfactorily, in a kindly lode of good dimensions, and well charged with blende and a little lead ore. The cross-cut going south is showing signs of more favourable ground for driving, with the same very favourable indications of nearing a rich lode. In the 45 cross-cut north progress is also very good; on the west side of the cross cut the strata is highly mineralised. The stope in the bottom of this level has not been quite so productive this last few days. I have two men tramming and filling the stuff from the different points of operation, so as to enable the men to make all speed possible.

CAMBRIAN MINES.—T. Glanville, Oct. 25: Esgair-Fraith: The lode in the bottom of the eastern shaft is now worth 100l. per fathom. The shaft is sunk the requisite depth for extending levels east and west, which operation will result in an enormous production of copper.—Esgair-Hir: The lode in this mine is yielding a considerable quantity of lead, equal to 20l. per fathom at present, and with every appearance of becoming much richer. We are now busy preparing ore for market.

CLARA CONSOLS.—N. Bray, Oct. 20: The present depth of the trial shaft below the 15 is 7 fms. 3 ft. 9 in., making 1 fm. 4 ft. for the month. After fixing the small wheel to drive the air machine, which was greatly wanted, we increased the men for the remainder of the month; hence better progress is making, and I hope that 2 fms. will be done in the current month. As stated in my last report we are still sinking on the north part of the lode; consequently there is no change to report on. Two men are working in Rowland's land in the back of the 30, and the lode yields a fair saving mixture for lead ore.

CLEMENTINA.—William Bennetts, Oct. 24: There is nothing new calling for any remark in the lode at the 34 since I last advised you, with the exception f the water which is flowing from the end in streams, which indicates that we are very near the east and west lode, which weare daily expecting to intersect, when I will advise you at once. We have by this post sent out samples of a parcel of lead ore, computed 8 tons dry weight. Tenders for the same to be sent to your office on or before the 31th inst. We have not been enabled to do anything on the dressing-floors for the last three weeks, on account of so much wet weather, and having no sheds to work in.

COURT GRANGE.—J. G. Green, Oct. 25: There is now a full supply of water, and winding is proceeding regularly. The ore in the 14 east (late adit) is looking splendid, and is worth fully 25l. per fathom. All the levels, &c., have now been re-named, as follows:—Main or engine shaft now called Tyack's shaft; footway shaft now called Oliver's shaft; Old Broginin shaft now called Francis's shaft; New Broginin now called Green's; shallow adit now called 5 fm. level; deep adit now called 4 fm. level; 15 fm. level now called 30 fm. level; 30 fm. level now called 45 fm. level; 40 fm. level now called 55 fm. level; 50 fm. level now called 65 fm. level.—Setting Report: To complete the shipway to the bottom of the mine, to fourm er, at 15s. per fathom—30 fms. To stope the back of the 45 (late 30), east of shaft, to two men, at 85s. per fathom, worth 10l. per fathom. To clear and timber the 45 east, to two men, at 5s. per fathom; as soon as this is cleared to the forebreast we shall commence driving the same. Set to four men to clear stuff in the 30 (late 16) to skip, and afterwards to drive the same level east. The 14 (late adit) to drive east, to four men, at 130s. per fathom, worth 25l. per fathom; a splendid lode, and adding to the reserves rapidly.

CWM PWYFOR.—Joseph Jewell, Oct. 25: I am glad to inform you that we have effected a communication between the winze and the rise by means of a bore hole, and shall, all being well, make a complete job of it by the end of this week. We shall commence to stope next week, and shall also push on the driving west of the 20 by six men.

CWM LLANERCH.—C. Knesbone, Oct. 23: We have now completed the clearing of the deep adit level a distance from the No. 1 or engine shaft to forebreast of about 50 yards, and I find the roof of the level to be worked for the greater part of this distance, and it very evidently yielded rich silver lead ore for the greater part of the distance, which I am inclined to think was on the junction of two lodes having different underlays, and that although both lodes were found in the open-cast by the turnpike-road, the lode which I have marked A was not seen in the deep level we have now cleared, which was driven in on the line of B, but forebreast of the level give indications that the point of intersection is close at hand there, and also what will very probably prove to be a cross-lode, or rather an east and west lode coming in from the direction of the Old Cwm Llanerch Mine. We shall now commence crossing at this point, and by Wednesday evening I hope to be able to report progress and a discovery of lead. We have completed the clearing to the forebreast, and on my next shall be able to describe in detail the lode which I could not do before.—Shafts: I find that the old workers had a small portable engine on the engine-shaft and 5-in. pitwork, but they had very little water until they got below the level of the river, which is about 14 yards below the bottom of the adit, and this No. 1 shaft could be easily drawn out to that depth, and level driven north, but perhaps it will now be as well to draw the water out of No. 2 shaft first; at all events we can have a chance of judging, which could not well be done sooner. I have cut across the whole of the lode, or the junction of lodes, as it may prove to be in diagram A and B in first page of report.

— Charles Knesbone, Oct. 25: As I advised you on Monday, we got the deep adit on the new mine clear on Saturday last, and on Monday we commenced to cut across the west side of the level, towards the lode A, in Monday's diagram, in which we found good stones of lead. We also find a good rib of lead on the east side, which appears like an east and west vein coming in. Altogether I am sanguine enough to think we are on the eve of an important discovery here. On Tuesday, in consequence of the excessive rain letting down an unusual quantity of top water, a small stull gave way, bringing down a quantity of debris, and with it a part of the lode standing to the north, among which are good rocks of lead, which further confirms my opinion of lead in paying quantities being found behind the former workings in that direction. At present we are clearing this fall, and shall make all possible dispatch in securing the level, after which I purpose to cross-cut the level on both sides on the lead in sight, and to put in stub and strip down the north lode to the full width. We should resume the driving of the level ahead, on main lode, with all possible dispatch, as there are one or two important intersections close at hand; and, from the healthy and promising appearance of the lode, which is nearly the width of the drive, and composed of carbonate of lime, flookan, friable spar, and rich stones of lead, I should not be surprised to see a course of lead within a few feet.

CWMYSTWITH.—Oct. 24: During the last 9 ft. driving in Gill's upper level east we have had a nice improvement, and the present end is fully worth 1 ton of lead ore per fathom. We have commenced a winze in the bottom of Micheli's level about 6 fms. west of main cross cut on the new lode, and it is impossible at present to say if we shall sink in the lode or not, as it will depend entirely on the ground, but this we shall ascertain by sinking a few feet. We are sorry to say that the intermediate level over the 12 and under the Rosa level is now poor; the lode being disordered by cross-joints, however, during the past month we drove through a nice spot of ore worth 15 cwts. per fathom for 3 fms. in length. We are not getting on with the rock-boring machinery as well as we wish, in consequence of breakages. We have not met with anything particular in the old workings at Pugh's shaft as yet, but still continue to push on. In Michell's cross-cut driving north by rock-drills we have during the past month cut two branches showing nice spots of lead ore; evidently those branches are dropping off from one of the lodes north of us; the ground still continues rather stiff for driving. Our pool on the mountain has been put in good repair. The new machinery at surface is in fair working order. We shall sample 25 tons of lead ore on Tuesday Oct. 30.

DE BROKE.—J. Phillips, Oct. 24: The lode in the 45 driving west is composed of killas and large quantities of quartz, with occasional good ribs of lead ore in a solid form. The 45 east is producing more ore than usual, but though improving not yet sufficient to value. In the 25 east we have a change in the ground, and an increase of water; no doubt coming from the large and open lode, where it forms a junction with the engine. The lode in the new stope, west of rise in the 35, is 7 ft. wide, and worth 12l. per fathom. The other two stopes in the back of this level are worth 18l. per fathom. The lode in the stope in the back of the 25 has become more mixed with friable quartz and gossan, and is now worth from 10l. to 12l. per fathom. The surface work and dressing for next sampling is somewhat delayed by stormy weather; yet I am pleased to say that fair progress is being made.

D'ERESBY MOUNTAIN.—William Bennetts, Oct. 24: The lode in No. 1 adit is worth 1½ ton of blende to the fathom, and producing some nice stones of lead—a very nice looking lode. No. 3 Adit Level: I am glad to tell you it is looking very much better than I have ever seen it before. We have taken down a piece of the lode to-day; so far as seen it is worth ½ ton of lead to the fathom. We shall take down more of the lode to-morrow, when I will advise you by post or by wire. There is no change in No. 4 level since my last report. Lode still worth 15 cwts. of lead to the fathom.

DERWENT.—John Morpeth, Oct. 23: The accompanying list of bargains were let here last Saturday. I send also estimate of ore, &c.—Jeffrey's Shaft: Middle Vein: The 95, 53 fms. east of shaft, is by side of lode as heretofore. Over this level we have five stopes; No. 1 is 5 ft. wide, worth 1¾ ton of ore per fathom: No. 2 is 11 ft. wide, werth 1½ ton ore per cubic fathom, or 2¾ tons for the full width: No. 3 is 7 ft. wide, worth 1 ton of ore per cubic fathom, or about 24 cwts. for full width; No. 4 is 3 ft wide, and produces 18 cwts. of ore per fathom; and No. 5 is 4 ft. wide, and worth 10 cwts. of ore per fathom. The cross-cut at this level, opposite shaft, is without change, and is re-set at the old price—8l. 10s. per fathom. The 93 fm. level, 123 fms. west of shaft, is poor; vein 1½ ft. wide. No. 1 stope in the back of this level is 6 ft. wide, and produces 14 cwts. ore per fathom; No. 2 is 5 ft. wide, worth 13 cwts. per fathom; and No. 3 is 5 ft. wide, and worth 20 cwts. ore per fathom.—Sun Vein: The level west from sump, under the 70 fm. level opposite shaft, at the division of sills is poor; vein 3 ft. wide. I have set to a pare of four men the stope in the back of this level west from sump, where the lode is 2 ft. wide, and yields 1¾ ton per fathom. The bargain driving and stoping east from sump is in a lode 2 ft. wide, and worth, on an average, 28 cwts. of ore to the fathom. The men we have now engaged will shortly complete the repairs to Jeffrey's shaft, when they can again be put to Taylor's shaft.—Reid's Shaft: North Vein: This vein at the 50 fm. level, 213 fms. east of shaft, is 2 ft. wide, but very poor.—Taylor's Shaft: Middle Vein: The cross-cut at the 40, 120 fms. east of shaft, was driven last month 1 fm. 5 ft. 3 in. During the last fortnight we have passed through two open joints or backs, one of which in places is faced with spots of blende. The indications of something being still in advance of us are stronger, and we have, consequently, re-set the cross cut to drive a little further, at 9l. per fathom. The same pare of men have also taken a stope on Old Sun Vein under the 40, some 426 fms. east of Jeffrey's shaft, where the lode is 2 ft. wide, and worth 6 cwts. of ore per fathom.—Westgarth's Shaft: Middle Vein: The 93 fm. level, 49 fms. east of shaft, is still driving by the side of the vein. The 74 fathom level, 183 fms. of shaft, is 2 ft. wide, and yields 12 cwts. ore per fm. The stope in the back of this level is 1½ ft. wide, and worth 10 cwts. ore per fm. and will, we hope, shortly improve. We have repaired the bratticing in this (Westgarth's) shaft during the last month to within a couple of fathoms of the bottom, and it now looks well.—Surface: We are now busy covering in stonebreaker and water wheel against the wintry weather, and cutting foundations and fixing framing for endless chain for dressing floors.

DEVON GREAT CONSOLS.—Oct. 25: Wheal Josiah: In Richard's engine-shaft, which has nearly reached the depth of 300 fms., the ground is more favourable for progress.—Wheal Emma—New Shaft, New South Lode: The new shaft betow the 175 is sinking in the capel, or north portion of the lode; the orey portion thereof is standing south of the shaft, and judging from the last point seen it may be expected to turn out well. In the 175 east the south part of the lode being driven is 4 ft. wide, worth 3 tons, or 9l. per fathom. In the 175 west the lode is looking better, and 5 ft. thereof carried, worth 3 tons, or 9l. per fathom. In the 175, east and west of Gorrell's winze, the portion of the lode carried, from 4 to 5 ft. wide, is composed of capel, quartz, a quantity of arsenical mundic, and 3 tons of copper ore per fathom. Toy's winze, below the 145 east, is made complete to the 160, and the ventilation is now very good. In the 130 east the lode is 4 ft. wide, composed of capel, spar, mundic, and copper ore, worth 2 tons, or 6l. per fathom. In the 100 east, on the north part of the lode, the lode is 3 ft. wide, consisting of capel, quartz, and a quantity of mundic, with ore worth 2 tons, or 8l. per fathom.

DUBBY SYKE.—W. Tallentire, Oct. 19: Monthly Report: Dubby Syke Level: There have been 3 fms. 2 ft. 6 in. driven south on the vein that we recently cut at a cost of 3l. 19s. per fathom. So far as I can judge the vein has a throw of 7 ft., east side up; it is a strong vein, and every way likely for being productive when we are driven from the intersection. We are now driving north below the limestone, with slate on both sides of the vein, the limestone being thrown up with this north and south vein to drive north is set at 3l. 7s. per fathom, to four men, to secure their ground, and bring their work to surface. I have been dialing the Green Hurth No. 1 rich vein to ascertain where it will intersect the Dubby Syke vein along with Mr. W. Vipond; we have fixed upon a site which we think the most appropriate for the sinking of a new shaft to prove the above veins in the whin sill. The place selected is 12 fathoms to the east of the junction on the line of Dubby Syke vein, and to the west side of Green Hurth other veins, which run in this direction, and may all be worked by driving on the Dubby Syke vein. We expect the whin to be close to the alluvial cover except a few posts of hazel might be in; it is a very suitable place for laying down dressing-floors, and is easy of access for bringing a large supply of water from the River Tees for pumping, dressing, &c. This trial when fairly carried out will, I believe, prove a remunerative undertaking.

EAST CRAVEN MOOR.—D. Williams, Oct. 25: The new shaft from surface upon Hardgate end vein is down to the top level; we are clearing and repairing the latter east of shaft with a full pare of men, and hope to be able to resume sinking early next month; the lode at this depth is over 6 ft. wide, filled with spar, gossan, and solid stones of lead ore, which are improving as we get deeper. In the cross-cut south from the 56 adit level to cut Woodhouse vein we have just intersected another branch of spar filled with spots of lead ore, and a good stream of water is coming from the end, which is a good indication that the vein will be cut rich. We shall commence driving a cross cut next week from the plat in the 42 to New Discovery vein, about 7 fms. south of Hardgate end vein, from which we raised and dressed by three men last winter over 20 tons of lead ore at 50 per ent. profit.

EAST DARREN.—Oct. 24: The 80, west of eastern cross-cut on south lode, has been driven during the past month 2 fms. 4 in., in a lode 2 ft. wide, and unproductive, and at present suspended. The 80, east of western cross cut on the south lode, has been extended 3 fms. 4 ft. 8 in.; the lode in the present end is improving, being 4 ft. wide, yielding 15 cwts. of lead ore per fathom, and looks promising for entering a productive run of ore ground. The same level west of cross-cut has been driven 3 fms. 4 ft. 8 in. in a lode 5 ft. wide, producing occasionally branches of lead ore, and looks promising, but is at present suspended. The cross cut north at the 80 has been extended 1 fm. 3 ft. 8 in., through ground favourable for exploring, and yielding occasional stones of lead: at this point we hope to reach the north part of the lode in a couple of fathoms further driving. The cross cut south at the 65 has been driven 3 fms. 4 ft., and reached the south lode, which is large, and contains spots of lead and mundic; at this point we purposed sinking a winze to the level under, on south lode, for ventilation, but it is at present suspended. In the stope over the drift (over the 115) the lode is large, and hard for exploring, yielding from 8 to 10 cwts. of lead ore per fathom. In the pitch over the 80, west of cross-cut on south lode, the lode is 8 ft. wide, yielding 1 ton of lead ore per fm. In the pitch over the 104, 180 fms. east of Taylor's shaft, the lode is large, yielding 10 cwts. of lead ore per fathom. In the pitch under the 104, from 110 to 140 fms. east of Taylor's shaft, the lode is 6 ft. wide, and much improved, at present yielding 1½ ton of lead ore per fathom. In the pitch under the 80 the lode is 5 ft. wide, yielding 15 cwts. of ore per fathom. The adit level has been cleared and timbered for a great length, but is not yet completed, but at present we have removed the men to put in timber and secure ground in the 104, preparatory to taking away a little ore ground standing. Our machinery is in fair working order. Drawing and dressing are steadily carried forward, and we shall sample on Tuesday next, the 30th inst., 50 tons of good quality silver lead ore.

EAST VAN.—William Williams, Oct. 24: I have no change to report from here this week.

FRANK MILLS.—James Rowe, N. Addems, Oct. 22: To drive cross-cut west of rise, between 100 and 115, north of engine-shaft, on east lode, by six men, at 3l. per fathom. We have about 6 ft. to drive to meet with the west part of the lode. When communicated stoping will be commenced at once on the east part of the lode; producing 10 cwts. of lead ore per fathom. To drive cross-cut west at the 72, north of boundary air rise, by two men, at 5l. per fathom. This cross-cut will prove if any more lode is standing to the west of the present workings. The 45 to drive north of boundary air rise, on west lode, at 4l. per fathom; lode composed of carbonate of iron, and producing a little lead and blende. We have about 10 fms. more to drive to get under the run of the ore ground in the bottom of the Exmouth adit. The five tribute pitches are being worked by 12 men, at 4l. per ton for lead, men earning fair wages. Good progress is being made towards the building of the engine-house, crusher-house, &c., for treating the large amount of halvans on the mine. We expect to have the buildings completed in about four weeks. Machinery and pitwork in good working order.

GAWTON COPPER.—George Rowe, George Rowe, jun., Oct. 20: The lode in the 105 is 8 ft. wide, producing very strong mundic and ore; worth 10l. per fm. The lode in the stopes in the back of the same level is worth 12l. per fathom. The lode discovered at the 95 cross-cut is not yet cut through; the part now in the end is of the same description as previously reported, being chiefly arsenical mundic, spotted with ore; worth 12l. per fathom. The ground in the 82 cross-cut south is a little stiffer for progress, being mixed up with spar, mundic, and ore, with every appearance of being near the lode. The tribute department is without change.

GLENROY.—R. Rowe, Oct. 22: We have sunk about 6 ft. below the 25 in a lode about 2 ft. wide, containing good stones of blende, and in a quartz nature exceedingly promising for ore; it now appears to have a regular dip south, and I propose to follow it in this direction for another week. The lode in the shaft, sinking below the 65, is maintaining its improved character; there is more quartz, and soft spar mixed with blende, and the lode will still average quite 6 ft. wide.

GOGINAN.—Oct. 24: Fair progress is being made in cutting roads and plats at the 130, and the sinking of the western shaft will be resumed very shortly. In the 130, east of western shaft, the lode contains a mixture of ore, and the part carried is of a promising appearance. In the same level, west of western shaft, the lode is large, and we are cutting in south through the lode, which yields good saving work for the dressing-floors. The winze below the 120, 70 fms. west of Bryn Pica shaft, is down to the 130, and the level is being driven west in a lode interspersed throughout with lead ore. The lode in the 100 east is without any change of moment. In the five stopes over the 120 the lode varies in produce from 8 to 16 cwts. of ore per fathom. The tribute pitches are producing on an average 11 cwts. of ore per fathom. All surface operations are being proceeded with as fast as possible, but the weather is very wet and hindering.

GREAT DYLIFFE.—Evan Evans, Oct. 23: At the 137, east and west of Dyliffe lode, we are driving by the side of the lode. About the end of this month we shall strip the forebreast again. The stope over the 1 2 east is worth about 16l. per fm. Another stope over the same level, east of winze, is worth about 14l. per fathom. At the 95 we are driving east by six men; the lode is worth about 14l. per fm. In about a fortnight this will be holed through to a stope that is coming up from the 105. We expect to have good paying ground to stope in this place up to the 85. In the stope in the bottom of winze under the 40 we have good ore. At the end of this month we shall know the exact value of it by dressing it separately. In the winze on new lode we have very nice ore, better than any seen before. In the 95, west of Bradford shaft, about two weeks ago we commenced a stope by two men, and from its present appearance we expect to have a good stope in that place. The other stopes on Llechwed-du lode are much the same as last week. At the 95, east of Bradford shaft, we are timbering and opening this level forward. In another week we hope to be able to say much more about it.

GREAT LAXEY.—F. Reddicliffe, Oct. 24: The interruption to the sinking of Welsh shaft was brought to a close at the time we stated in our last report that it would be, and the work is now going on regularly. The lode in the bottom is strong, and giving good indications, but not producing much ore. The 210 fm. level of engine shaft, is also again in regular course of driving. Going north of the shaft this level is holed to the end south of winze, giving perfect ventilation, and completely opening a large section of good ground. The end driving north of the winze at this level is without change, and the same remark applies to the 210 fm. level, driving south of cross-cut in the 200, and for the present cut off the ore, but in the present value being 35l. per fathom. The winze lately sinking in the end of the 200 north is holed to the 215, south of Dumbell's.—Dumbell's: The shaft sinking below the 215 is down about 2 fathoms, and lodge being cut in connection with the winze sinking near the end in the 170 north is improved, present value 30l. per fathom. In the 140 north the lode is not taken down quite close up to the end, but where seen is worth 20l. per fathom; this is the best lode seen in the mine for a long time, and a continuance of it at this point would be very important indeed. None of the other ends show any change, neither is their any alteration worth remarking in the value of the stopes throughout the mine. The rise in the roof of the 110, between Welsh and Dumbell's shaft, begins to produce a little ore again, and looks encouraging; present value 8l. per fathom.

GREAT RETALLACK.—J. Harris, Oct. 20: The men have finished striking down the south side of the 53, and I have set them a bargain to cut place for barrow-road for the 53 west, preparatory to sinking below this level, at 2l. 10s. per the job, which I hope they will complete by the middle of next week. In the west the lode is without change, containing stones of blende and patches of mundic.

GREAT RETALLACK.—J. Harris, Oct. 24: The men have not quite finished their bargain of making the barrow-road, &c., at the 53 yet, but will do so to-day, so that we shall resume sinking our shaft below the 53 to-morrow in a lode worth from 2 to 3 tons of blende per fathom for 6 ft. long of the lode. In the 53 the lode is composed of black killas mixed with much mundic and a little blende.

GREEN HURTH.—W. Vipond, Oct. 19: The new end west from No. 1 continues to yield 1½ ton of ore per fathom; it is keeping its bearing well so far, and appears as if it will prove to be something quite independent of No. 1. The lode on the west side of No. 1 further back is yielding ½ ton of ore per fathom. The stope on the east branch is not yielding much at present, but it is improving, and will be soon fully as good as is was in the driving. The two men who were here to this end are just about finishing with it, and will begin north on No. 3 next week. The stope on No. 2 cross-vein is yielding 8 cwts. of ore per fathom. The stope below the level north is poor; yielding in the present end 6 cwts. of ore per fathom—it has got close up now to Fire Away cross-cut. The driving from the rise in Fire Away north continues to yield 1 ton of ore per fathom; this end is looking well. In the cross-cut south from adit level the beds are still gradually improving. We have sent off no ore this week that I can report, but we shall have three pitches here to-morrow. The machinery is at work again, and we have fine mild weather this morning.

HARWOOD.—W. Tallentire, Oct. 19: Herdship: The north end drift has been driven 5 ft. 6 in., at a cost of 3l. 13s. per fathom; 5 fms. 2 ft. 6 in. have been sunk at a cost of 2l. per fathom. We are driving the north drift; set at 2l. 5s. per fathom, to four men, and to deliver their work to surface. I see no change to notice in the vein produces good stones of ore at the top of the drift. In the south end, 2 fms. 2 ft. have been taken down, at a cost of 2l. per fathom. We have dressed all the bouse we have out, except the brangled, which we are accumulating for crusher work.

HINGSTON DOWN CONSOLS.—T. Richards, Oct. 25: Bailey's Shaft: In 172, east and west, there is no material change; the lode continues of large size, and is producing good stones of ore. In the 160, west of Nicholls' winze, the lode is worth 5 tons of ore, or 15l. per fathom. In the stope in the back of the 160 of Nicholls' winze, the lode is worth 6 tons, or 18l. per fathom. In the end in the 140, east of Chynoweth's rise, towards the north part of the lode, the ground continues moderately easy.

HOLMBUSH.—H. Bennett, Oct. 25: The shaftmen are still employed at the clearing the level. A tramroad has been laid down in the 60 west of the engine shaft, and completed to the present end, which will facilitate operations; the lode in this end at present has a kindly appearance, yielding good quality arsenical mundic and copper ore. The stope in the back of the 80, east of Miller's shaft, is opening up well, yielding arsenical mundic of about 40 per cent. and good stones of yellow copper ore. The stope in the back of the 60, west of Miller's shaft, is also looking well for copper and arsenic. All other points of operation are without sufficient change to notice. The machinery is in good working order.

KINGSTON CONSOLS.—W. Hancock, J. Chynoweth, Oct. 22: As none of the men's contracts are out this time we give you the values per fathom of the different bargains that are being operated upon. In the 30, west of the shaft, the lode is 3 ft. wide, worth for blende and lead about 8l. per fathom. There is about more to drive to communicate to the level driving from No. 4 winze. The lode in the latter is worth about the same value. We may here remark the value these drivages has been more valuable in the bottom of the levels than in the back. As soon as these levels are communicated the 40 shall at once be resumed by a pare of men, and winzes sunk in the bottom of the 30. The stope east of the winze is worth for blende and lead 20l. per fathom. The lode in the 18 west is wide, producing occasional stones of blende and lead, a very kindly lode. The same level east the lode is 1½ ft. wide, producing a little blende and lead, and peosent not of any commercial value. The four stopes in the back of the 18 are worth respectively about 1 ton of blende and 5 cwts. of lead per fathom. One sale of ores realised 400l. 9s. 6d., and we are busily engaged preparing for next sampling.

KIT HILL TUNNEL.—H. Bennett, Oct. 25: The railroad has been completed and laid down to the present end. We trust we shall now make good progress driving as the ground is very favourable, and that our expectations in the value of some good discoveries may be soon realised.

LADYWELL.—A. Waters, Oct. 25: There is no change here worthy of note for the last week or two. The new shaft is being sunk with good speed in good-looking lode, which is yielding stones of lead ore. We have to-day 2 tons of lead ore for 222l. 10s.

LOVELL (THE).—J. Prisk, E. Kempthorne, Oct. 24: The lode in the Hope shaft sinking below the 36 is improving as depth is attained, and is now worth 200l. per fathom for the length of shaft—12 ft. The several stopes throughout the mine are proving moderate quality tinstone, and generally looking well.

LLAN GAN.—Capt. Wasley, Oct. 24: Engine-Shaft: I am still driving the cross-cut, and from the appearance we may cut the lode at any time. In the cross-cut we have driven 4 fms., and find branches running east and west, impregnated with lead, and I believe we are near the first south lode.—Wheal Shaft: We have commenced stoping in the level, east of shaft; the lode is worth lead as we go down.—Old Engine-Shaft: The stopes are still large, and produce a quantity of ore for the floors.—Richards's Lode: This lode is improving, and quality as we drive and sink, both east and west. I forward a further consignment of lead to market on Friday next.

MARKE VALLEY.—Wm. George, James Stenlake, Oct 19: Setting Report: Marke's Lode: To drive the 148 east, at 14l. per fm.; when last to end driven 4l. per fm., worth 3½ tons of ore per fm.—Roseclown Lode: To stope south in bottom of 80, by six men, at 7l. per fm., worth 6 tons per fm. To rise in the 60, by four men, at 6l. per fm., worth (for length 9 ft.) 2 tons of ore per fm. The men employed in the stope in bottom of 60 are now put to strip down a piece of lode that had been left standing in the side, worth 4 tons of ore per fm. To stope back of 50, by four men, at 2l. 10s. per fm., worth 4 tons per fm. To stope the 40 west, by four men, at 5l. 10s. per fm., lode 3 ft. wide, worth 3 tons per fm. No. 1 rise in back, by four men, at 5l., worth for length (2 fms.), 6 tons per fm. No. 2 rise, by four men, at 6l. 10s., worth for length (2½ fms.), 6 tons ore per fm. To drive the 30 west, by two men, at 4l. per fm., and 10s in the ore broken; here we have a very promising lode, worth at present 1 ton per fm. No. 1 stope in bottom, by six men, worth 7 tons of ore per fm. To stope, by four men, at 5l. per fm., worth 4 tons of ore per fm. To drive west, by two men, at 6l. per fm., worth 2 tons of ore per fm. To rise in the 20, by four men, at 10l. per fm., worth for length (2 fms.), 8 tons of ore per fm. To drive the 10 west, by two men, at 4l. per fm., and 10s in lode. To stope back of this level, by four men, at 2l. 10s., worth 3 tons per fm. The Salisbury adit west at 2l. 10s. per fm. We are getting near the new shaft sump which we hope soon to communicate. We have also set the following tribute pitches:—One pitch in back of 80, on Rosedown lode, by two men, at 8s. 6d. per fm.; one pitch in bottom of 60, ditto, by two men, at 8s.; one pitch in back of 60, ditto, by two men, at 10s.; one pitch in bottom of 50, ditto, by two men, at 12s.; one pitch in back of 50, ditto, by four men, at 11s.; one ditto in back of 40, ditto, by two men, 12s. 6d.; one pitch in back of 30, ditto, by two men, at 8s. 6d.; one pitch in bottom of 10, ditto, by four men, at 10s.; one ditto in back of 10, ditto, by two men, at 10s. per fm.

MELLANEAR.—John Gilbert, Oct. 24: The lode in the 50, west of shaft, is 4 ft. wide, and worth 3½ tons of ore per fathom. The rise in the back is up 2 fms., and the lode is worth 3 tons of ore per fathom. The lode in the 60, driving east from No. 3 rise, is worth 1 ton of ore per fathom. The stope in the back of the 67, east and west of No. 1 rise, is worth 4 tons of ore per fathom. The stope in the bottom of this level is worth 8 tons of ore per fathom. The rise in the 90, west of the skip shaft, is 4 ft. wide, and worth 3 tons of ore per fathom. —Gundry's Shaft: The lode in the 90, driving east of cross cut, is 4 ft. wide, worth 2 tons of ore per fathom, and letting out a little more water; there are about 15 fms. to drive to communicate this with the 90, west of the skip-shaft, and with good speed we shall accomplish this distance in the early part of December next. We are also cutting top-plat, and preparing to put in the pumps to resume the sinking of the shaft below this level, and hope to get everything ready for sinking by the latter part of next week. There is no change to notice in the 80, west of shaft. The lode is still 4 ft. wide, and producing good stones of copper ore. The stope in the back of this level, east of shaft, is worth 5 tons of ore per fathom. The lode in the 70, west of shaft, is 4 ft. wide, and worth 1½ ton per fathom. The lode in the 60, east of shaft, is 2 ft. wide, and worth 1½ ton per fathom; this end is now just over the poor ground that we had before to cut, and from the distance in the level below. The rise in the back of this level, which is about 2 fms. behind the end, is up 4 fms., and the lode is worth 4 tons of ore per fathom. No. 1 rise in the back of this level, east of cross-cut, is up 8 fms., and the lode is still worth 6 tons of ore per fathom. These rises are 12 fms. apart, and will open the whole ground to the surface, which looks very encouraging for the upper part of the mine. The lode in the 60, west of shaft, is 3 ft. wide, and worth 1 ton per fathom, and looking more promising than it has for some time past. The other underground operations are going on very satisfactorily. Our machinery throughout the mine is in good working order, and we have placed the pitwork in both the shafts in a very efficient state, so as to be prepared for any increase of water that we may have in the coming winter.

MONYDD-GORDDU.—James G. Green, Oct. 25: I have nothing new to report this week; very good progress has been made in all our departments. We have a full supply of water we are now crushing by day and winding at night.

NEW HENDRA.—William Rowe, Oct. 22: The deep adit end set to cut 6l. per fathom for the month; ground now favourable for driving, and of a very genial appearance for mineral.

NEW TYLLWYD.—Oct. 24: The lode in the forebreast of the 20, driving from the cross cut, is now 3½ ft. wide, with ribs of spar and bunches of copper in it, particularly near the bottom of the level, where there is a good bunch of ore; the lode is keeping strong. We have broken good ore from the lode at the intersection.

NORTH LAXEY.—R. Rowe, Oct. 23: After carefully examining this mine to-day, I am pleased with the prospect. In the 146 driving south there is a kindly lode, about 3 ft. wide, chiefly composed of ore-bearing quartz, and yielding at the same time good stones of lead. I feel sure if this level is carried forward to the south ground of the mine, under the stopes at present giving our ore re-

...ovements will be made as will put the mine into a position to greatly increase ...ts returns. In the 146 end north the lode is 2 ft. wide, made up of spar prin...ally with a little lead. In the stope below the 121, at the north end of it, the ...lode is nearly 6 ft. wide, and worth 2 tons of lead per fathom. This run of ground ...s improving in depth, and is another object of importance in advance of the 146, ...ow level north. The stopes are looking much as last reported. The 70 roof ...pe is worth 15 cwts. of lead per fathom; the 60 sole stope is worth 1 ton of lead ...r fathom; the 60 roof stope is worth 1 ton of lead per fathom. In the 40 end the lode is 1½ ft. wide, worth ...rth ¼ ton of lead per fathom. The new dressing machinery is in full work, and answer...ite, per fathom. The new dressing machinery is in full work, and answer...well.

...OLA HILLS.—Jos. Phillips, Oct. 24: There is no alteration worthy of notice ...throughout the mine since my report and telegram of last week. The mine looks ...well as ever, and rocks of solid lead ore, weighing 1 cwt., are being broken from ...the new sinking under the 23 fm. level.

...RRYS MOUNTAIN.—T. Mitchell, Oct. 25: From the favourable appearance ...showing itself in the 90 cross-cut south we have reason to think that we are not ...far from something valuable. We are often meeting with rich strings and ...bodies of copper ore, another small branch containing some nice looking ore ...has made its appearance to-day. All other points of operation are without ...change.

...ST CLYMMON.—J. Garland, Oct. 24: There is not any change calling for ...particular remark in any of our underground operations since my last. Fair pro...gress is being made in the 36 at all points, with signs of an improvement in the ...west of Herbert's winze. We have also strong spots of ore in the drivage east ...of Owen's winze. Surface operations are progressing as usual, with ample water ...for all purposes.

...ALLEY BRIDGE.—C. Williams, Oct. 25: The Rake vein in the 30 east has ...considerably improved this morning, being 8 ft. wide, and worth 3 tons of ...lead per fathom; in fact, I have not seen a finer looking vein in all my expe...rience during a period of 35 years. The two stopes in the back over this level are ...turning upon an average 27 cwts. of lead ore per fathom. The same vein in the 30 ...west is strong and powerful, and worth 12 cwts. of lead ore per fathom. The ...vein now going east from the south cross-cut in the 20 west is worth 15 cwts. of ...lead ore per fathom. I have let the west end on the same vein to four men, at 60s. ...per fathom, and 20s. per fathom. The vein in the end is 4 ft. wide, and ...looking for clean ore, and 20s. per fathom. Fielding's vein in the 20 north-west is 4 ft. ...wide, 15 cwts. of lead ore per fathom. The Sun vein going east under ...the 12 end, and worth 1 ton of lead ore per fathom. The Sun vein going east under ...the level is 6 ft. wide, and worth 15 cwts. of lead ore per fathom. Dressing ...and smelting ore proceeding regularly; I hope to have another parcel of 30 tons ...of dressing ore ready for sale quickly.

...CLEMENTINA CONSOLIDATED.—W. Tregay, Oct. 25: Sump: In the 140 ...fathom cross-cut we have cut into the main lode, and have got into it about 3 ft.; ...but as seen it produces good rich tinstuff. This lode being usually of great ...size in the small part yet intersected does not enable us to calculate its value, but ...from the small part yet intersected does not enable us to calculate its value, but ...it appears that all the workings hitherto at and below this level have been on branches ...of the main lode standing on the north. All other points as last reported.

...TRUTHAL.—W. Polkinghorne, Oct. 5: The lode in Highburrow shaft, ...under the 72, is 6 ft. wide, but no alterations in its character since our last. ...The 72, driving east and west of Highburrow shaft, is without change ...from what you were last advised. The 46, driving east of cross-cut on the new lode, is ...now 3 ft. wide, and worth for copper ore 8l. per fathom. In this level driving west we ...have cut into a small cross head, which has disordered the lode a little; the lode ...is now opened chiefly of tin, and worth about 6l. per fathom. We have no other ...points to notice.

...PRINCE OF WALES.—John Andrews, Oct. 24: There has been very little done ...since my last. The stope in the back of the 24 on the silver lode during the past week, as the ...men have been engaged putting in ladders, casing, dividing, &c., in Vigar's shaft. ...This shaft has been sunk down below the 24 level, and we could safely go before the shaft is secured with timber; this we shall go ...on with as fast as possible, and I hope in a week or ten days the shaft will be ...sufficiently well secured, so that we may begin to drive west from the shaft. The lode ...as seen in the shaft is looking strong and masterly, and about 10 fathoms ...from the surface the north part of the lode for 20 inches wide will yield 3 tons of ...copper per fathom. The silver-bearing part of the lode is south of the mundic.

...ROMAN GRAVELS.—A. Waters, Oct. 25: The rise in the 106, north of flat rod ...cross-cut against Perkins' winze, is worth 1 ton per fathom of lead ore. The 106 fm. ...cross-cut south is forth to a cross branch, which has disordered the lode a little, the ...lode at present being ½ ton per fathom. The 95, south of the new engine-shaft, is ...worth 1 ton per fathom. No. 1 stope, in the 95, north of Tetley's winze, is worth ...1 ton per fathom. No. 2 stope north is worth 2 tons per fathom. No. 3 stope is ...worth 1½ ton per fathom. No. 4 stope is worth ¾ ton per fathom. No. 1 stope, ...in the 95, south of Dorricott's winze, is worth ½ ton per fathom. No. 2 south is ...worth 2 tons per fathom. No. 3 is worth ¾ ton per fathom. The rise in the 95, ...south of new shaft, is worth 2 tons per fathom. The stope in the 95, south of the ...said new shaft, is worth 1 ton per fathom. The 80, south of the said ...shaft, is worth 1 ton per fathom. The winze below the 80, south of the said shaft, ...is worth 1 ton per fathom; we expect to hole the said winze to the 95 next week. ...We are preparing to sink a new winze below the 80, south of shaft, in advance of ...the end, and calculate it will go down in a good course of ore. No. 1 stope, in ...the end south of Wilks' winze, is worth 3 tons per fathom. No. 2, south of ditto, ...is worth 3 tons per fathom. No. 3 stope, south of ditto, is now worth 2¼ tons per ...fathom. No. 4 stope, south of ditto, is worth 2½ tons per fathom. No. 1 stope, ...south of ditto, is worth 3 tons per fathom. No. 2 stope, north of ditto, is worth ...2½ tons per fathom. The 65, south of Stokes' winze, is worth 1 ton per fathom. ...No. 1 stope, in the 65, south of the said winze, is worth 2½ tons per fathom. No. 2 ...stope, south of the said winze, is worth 2 tons per fathom. No. 3 stope, south of ...the said winze, is worth 3½ tons per fathom. No. 4 stope, south of the said winze, ...is worth 3½ tons per fathom. No. 5, south of the said winze, is worth 1 ton per ...fathom. No. 1 stope, south of Powell's winze, towards the old shaft cross-cut, is worth ¾ ton ...per fathom. No. 2, south of the said level, is worth 3½ tons per fathom. ...No. 1 stope, in back of the said level, is worth 3½ tons per fathom. ...No. 1 stope, in back of the 50, south of Stokes' ...winze is worth 1 ton per fathom. The winze below the 50, south of Stokes' ...winze is worth 1½ ton per fathom. We are clearing and securing the 40 fm. level ...with a view of extending the end into the ore ground seen below in the 50. ...For the purpose of extending the end into the ore ground seen below in the 50. ...No. 1 stope, in the 80, south of Glover's winze, is worth 1 ton per ...fathom. No. 2 stope south is worth 1 ton per fathom. The new shaftmen are ...now in No. 2 stope south is worth 1 ton per fathom. The new shaftmen are ...making good progress in putting down main rods, &c. We have to-day sold 175 tons ...of copper ore, for 220l. 7s. 6d.; and 25 tons of blende, for 103l. 2s. 6d.: together, ...328l.

...SAINT PATRICK.—Wm. Francis, Oct. 24: In the 180 yard cross-cut north the ...work is still rather unsettled, but appearances generally are favourable for ...getting good ground for driving, and it is showing every probability of the next vein ...being reached proving rich. The white limestone here has undergone a marked ...change. The 60 yard cross-cut in the chert is without material alteration, the ...ground being more compact, and rather stiff for driving, but with the best dip and ...other favourable features, having now occasionally small partings, with spar and ...mundic.

...THE CONDURROW.—William Rich, William Williams, Henry Abraham, ...Jos. The sinking of the Plantation shaft is being urged on below the 30 by six ...men. We have nearly cleared and secured the 50 west on West Basset lode; it is ...the intention to urge on this end west to communicate with the Plantation shaft ...when sure it is sunk to the 5½; this level will drain the shaft when holed. The ...bottom of the engine shaft, on the tin lode, is letting out more water, and looks ...like going to improve. The 40 east is worth 12l. per fathom. The 50 east is worth ...3l. per fathom. The 50 west carries a little tin. The rise in the back of the 60 west ...is worth 2l. per fathom. The 60 end west is worth 10l. per fathom. The 70 west ...copper lode is worth 7l. per fathom. We intend to cross-cut south next week ...to meet the tin lode in the 70 west. The rise in back of the 70 west is worth ...3l. per fathom. The 80 fm. level end east has improved, now worth 40l. per fm. ...The 80 fm. level west is worth 9l. per fathom. The stopes in the back of the 93 are ...doing well.

...THE DARREN.—H. James, A. Gundry, Oct. 16: Setting Report: No. 1 ...stope, west of the winze, in the 90, at 4l. 15s. per fathom. No. 2 stope, east of the ...winze in the same level, at 4l. 10s. per fathom; the value of the former is 27l. per ...fathom, and the latter 12l. per fathom. The 80 to drive west, by six men, at ...4l. per fathom; no change here since last setting report. No. 1 stope, in this ...end, at 6l. 5s. per fathom, worth 14l. per fathom. No. 2 stope, at 4l. 5s. per fm., ...worth 9l. per fathom. Nos. 3 and 4 stopes at 3l. 10s.; the value of the former 8l. ...per fathom, and the latter 6l. per fathom. The winze in the bottom of the 70 at ...the 80 fathom. The shaftmen are still engaged repairing the engine shaft. The ...work is getting on fairly well towards completion, and will we hope be soon at ...work. The machinery is working well. The 25 tons of silver-lead ore, sold on ...account, brought 17l. 2s. 6d. per ton.

...THE ROMAN GRAVELS.—John W. Powning, Oct. 25: Shelfield: The lode ...in the 40, east of shaft, has improved a little during the past week, but there is no ...worthy of notice in the 45 west; the lode still yields occasional stones of ...copper, and looks very promising. I will send full report next week.

...THE TOLCARNE.—W. Rich, W. Hambly, Oct. 24: We have set the new ...pair of lift to work, and resumed sinking the shaft below the 24; the lode in the ...bottom of the shaft is yielding good stones of copper, and has a kindly appearance. ...The lode in the 24 end west is opening out wider, and carries good stones of ore. ...We have not yet intersected the South Condurrow lode in the cross-cut, north of ...the shaft, but the ground looks as if we are getting near it.

...TREMONT.—Thomas Glanville, Oct. 25: North and South Lode, Deep Adit ...level: We are continuing to extend this level north into the mountain, but I am ...sorry we have a piece of very disordered ground. I have no doubt that as ...we go on and get a greater back the lode will be more of a settled character, and ...more of lead.—No. 2 Lode: Although we get a little ore from the 17 east ...it is not enough at present to value. The cross-cut north is now within about ...10 fms. of the old lode, which formerly produced such immense quantities of ore, ...and though I cannot but confess my regret and disappointment at the poorness ...of the lode for the last few months, yet I feel confident that eventually we shall ...have great success.

...WHEAL DALE.—Thomas Watson, Oct. 19: North End Cross Cut: This cross cut ...has been driven 2 fms. 6 in., by two men, at 85s. per fathom, and is now left off ...2 fms. from the next vein that is known of. This vein has evidently been ...worked by former workers to the south of the line of the cross-cut. Hopkins' ...old cross cut have been driven 3 fms. 4 ft., by four men, at 115s. per fathom; ...the present is now set to four men to drive south as far as wanted, at 4l. 14s. per ...fathom.—they cut into a strong cast and west vein last night. I have just seen it ...and they have not reached the south cheek of the vein yet, so I cannot give ...the width and throw. I saw spots of lead ore in it to-day; it is the most promising ...vein we have cut since we started to cut south.—Surface Work: Two of our ...men have been attending to the sludge buddle, and the master dresser, and some ...have cleaned out the slime pits, and done other jobs about the dressing floor, ...and fitted the millwright with any heavy lifts. A few more days will set our ...new machinery to work. We cannot do any good with starting to dress ore ...for a couple of sieves until we get the millwright done, and the chips and shavings ...cleared away.

...WHEAL LEIGH CONSOLS.—J. Gifford, Oct. 24: In the 45, east of Ward's engine-...shaft, the lode is 1½ ft. wide, composed of capel, quartz, and a flookan on the ...south side, with spots of blende and lead ores intermixed. Here I think the lode ...will be found small—the same as seen in the adit level before it reaches the large ...tin-bearing lode driven through in the adit further east, full 20 fms. in length. ...To the west the lode is 2½ ft. wide, composed of capel, quartz, arsenical and ...common mundic, and occasional stones of blende and silver ores intermixed, ...but no value. This end is letting out a large stream of water, and no doubt it ...will drain the shaft to the junction of the branches going through the shaft at the ...adit level, and we are now driving west on the south part of the lode, ...to the north of the shaft, and the east one 4 ft., making a ...total length of the shaft, 12 ft.) of 3½ fms.

...WHEAL PROS.—E. Jones, Oct. 23: We have discontinued the cross-cut south ...from the eastern level, and we are now driving east on the south part of the lode, ...on the south wall of the lode in the level, against which we find a strong ...leader of lead and blende, from which we have this day forwarded to you three ...lumps weighing about 1 cwt. The leader appears to be continuous, but it varies ...in width. Where we broke the lumps from it is producing fully 1 ton of lead ore ...per fathom; now it is not so good, producing about 8 cwts. of lead and 5 cwts. ...of blende, the other part of the lode as last reported. The cross-cut south is ...about 68 ft. from the cross cut north east of the winze, or from the winze 79 feet. ...The package sent off to-day is rather heavy, but I think what you have to pay ...for its carriage will be money well expended to show what this mine can produce.

VAUGHAN.—Oct. 24: The deep level, east of engine-shaft, has been extended during the past month 3 fms. 4 ft. 9 in., in a lode composed of a blue clay-slate, carbonate of lime, with occasional stones of lead ore, but not sufficient to value; this point is suspended at present. The 32, east of cross-cut, on the south part of the lode, has been driven 6 ft., in a lode letting out water freely, chiefly composed of a light clay-slate, carbonate of lime, blende and lead ores, yielding of the latter 1¼ ton per fathom, now being extended by six men, at 9l. per fathom. The same level, west of cross-cut, has just been started, on a lode yielding good bunches of lead and blende ores, worth 1 ton per fathom, and looks promising for opening good stoping ground; set to six men, to drive at 10l. per fathom. In the stope over the 20 nothing has been done since last reported on, the men being engaged in clearing stuff, but we shall resume stoping in a few days. At surface the carpenters are now employed in erecting a 10-ft. water-wheel and two round buddles, which, should the weather permit, will be completed in a few days, when we shall at once commence dressing ore for market. The weather at present being so wet and stormy greatly impedes our progress in completing the necessary work at surface.

WEST ASSHETON.—J. Craze, J. Manley, Oct. 25: As under we beg to hand you our setting report for the month ending Nov. 10:—The 80 west of boundary, is now extended 35 fms.; the lode in the present end is over 2 ft. wide, of spar, lead, and copper, but not sufficient to value; a very promising end; set to six men, at 9l. per fathom. The 60 west is set to four men, at 5l. per fathom; the lode here is 3 ft. wide, composed of spar, and saving work for lead and blende—a very promising end. A stope in the back of this level not yet set; the lode here is worth fully 1 ton of lead per fathom. We have set the following tribute pitches:—Two men in the back of the 60, west of boundary, at 6l. per ton. Two men in the back of the 60, west of boundary, at 7l. 10s. per ton. Two men in the back of the 60, west of boundary, at 7l. 10s. per ton. Two men in back of the 50, west of boundary, at 6l. per ton. Two men in the back of the 50, at 7l. per ton. Two men in back of the 40, west of boundary, at 7l. 10s. per ton. We shall sample 12 tons of lead ore on Saturday next, for sale Nov. 5.

WEST CRAVEN MOOR.—D. Williams, Oct. 25: No. 3 vein, in the 20 east from new east shaft, has during the last few days greatly improved, being at present 3 ft. wide, filled with spar, gossan, and galena, worth of the latter fully 1 ton per fathom. No. 3 stope in back of 20, upon No. 2 vein, and 5 fms. behind the end, is worth 40l. per fathom for lead ore. New Blackhill shaft from surface is down within 9 ft. of Blackhill level. The vein in the bottom is over 7 ft. wide, composed of barytes, spar, gossan, and good patches of lead ore. Other points are of the same value as reported in my last. On Tuesday last I weighed off a parcel of pig-lead, and am daily carting lead ore to the smelt-mill.

WEST ROSKEAR.—H. Stephens, W. Bennetts, Oct. 25: Since our last we have dropped the lift and forked the water 2 ft. below the back of the 24 fm. level; there is still a large quantity of stuff in the shaft to clear, and consequently our progress will be slow for the next few days. The lode in the winze sinking below the 12, west of Stephens's shaft, is quite 5 ft. wide, with a leader of copper ore from 10 in. to 1 foot wide on the north side, and bids fair for opening out a good piece of mineral ground.

WHEAL GRENVILLE.—T. Hodge, Oct. 23: At the western shaft our water is up to the back of the 160; our water is increasing as we drive. The stope in the bottom of the 150 is worth 7l. per fathom. The lode in the 150 east end is worth 6l. 10s. per fathom; we are daily expecting an improvement in this end. Three stopes in back of the said level are worth in the aggregate 24l. per fathom. The 130 west end is producing low-price tinstone; the lode is letting out more water, which I consider a favourable indication. The stope in bottom of the 130 east is worth 7l. per fathom. Four stopes in back of the said level are worth in the aggregate 30l. per fathom. The 150 west end is extended from the north shaft about 9 ft. on the old tin lode, the ground in which is moderate. The 140 west end is worth 6l. per fathom. The 140 east end is worth 6l. 10s. per fathom. No other change in the bargains. We have brought home one boiler, which is in good condition—the other I expect home this afternoon. We stopped our stamping-engine yesterday morning, since which time we have taken it all out, and have the new bob in the house. The masons are busy about the loading. We are working night and day, in order to get to work in the quickest possible time. We have stamped during the past fortnight about 7 tons of tin.

WHEAL KITTY (St. Agnes).—Stephen Davey, Richard Harris, Oct. 20: We have no change worthy of special remark in either of the points of operation since our report of the 13th inst.

WHEAL MARY HUTCHINGS.—Henry Miners, Oct. 24: Since my last report we have been obliged to suspend the working of the kilns for nearly a fortnight, which has greatly delayed our make of arsenic, as we have had to alter the flues built by the old Battle Hill Company, and raise the stack 10 ft. higher, as we found it was not equal to the working of 12 kilns, but since the alteration we have found the kilns improving every day, and I never saw the fires stronger nor the kilns working better than at the time of my writing since first put to work, therefore I have not the least doubt, from the way in which they are now working, that all things will go well for the future, and regular and good returns will be made. Our lode is still looking well.

WHEAL NEWTON.—H. Bennett, Oct. 25: The following is the setting report of this mine:—Cook's shaft is set to sink below the 40, by nine men, at 14l. per fathom; the lode consists of carbonate of iron, sulphur mundic, and a little silver. The 40 to drive east of Cook's shaft, by six men, at 4l. 15s. per fathom; the lode yields silver ore but not sufficient to value. The 40 to drive west of Cook's shaft, by six men, at 4l. per fathom; the lode yields saving work for silver. No. 1 stope, in the back of the 40, east of Cook's shaft, by six men, at 3l. 5s. per fm.; the lode is yielding saving work for silver. No. 2 stope, in back of the 40, east of Cook's shaft, by six men, at 3l. 10s. per fathom; the lode is yielding average quality silver ore. No. 3 stope, in back of the 40, east of Cook's shaft, by six men, from which the lode yields very valuable silver ore. No. 1 stope, in back of the 40, west of Cook's shaft, by six men, at 3l. 5s. per fathom; the lode is yielding good work for silver. No. 2 stope, in back of the 40, west of Cook's shaft, by six men, at 3l. 10s. per fathom; the lode yields saving work for silver ore. A rise in the back of the 40 fm. level, west of Cook's shaft, by six men, at 3l. 5s. per fathom; it is producing good quality silver ore. The 30 is set to drive east of Cook's shaft, by four men, at 4l. per fathom; the lode is looking very promising, being composed of carbonate of iron, prian, and silver ore. The 30 to drive east of Lamping's cross-cut, by six men, at 3l. 5s. per fathom, yielding good quality silver ore. The 30 to drive west of the above cross-cut, by six men, at 4l. per fm.; the lode is yielding good quality silver ore. The stope in back of the 30, west of cross-cut, by six men, is yielding saving work for silver.

The 44 is set to drive east of the engine-shaft, by four men, at 4l. 5s. per fathom; the lode is composed of carbonate of iron, sulphur mundic, prian, and a little silver. The 44 is set to drive east of the engine shaft, by four men, at 4l. 15s. per fathom; the lode much of the same value as in the western end, and very promising. The 30 to drive west of Tray's cross-cut, by six men, at 4l. 15s. per fm.; the lode is much the same as in the western end.—Harrowbarrow Lode: The 10 to drive west of the engin-shaft, by four men, at 4l. 10s. per fathom; the lode at present is poor. The 10 to drive west of Cook's shaft, by six men, at 5l. 5s. per fathom; the lode is worth 8l. per fathom for copper and arsenical mundic. A cross cut to drive south at the 10, east of Cook's shaft, by two men, at 7l. per fm. A pitch in the bottom of the 30, west of Cook's shaft, by six men, is worth 18l. per fathom for copper and arsenical mundic. A stope in the back of the 30, east of Cook's shaft, by two men, is worth 10l. per fathom for copper and arsenical mundic. A stope in the back of the 30, west of Cook's shaft, by two men, is worth 12l. per fathom for copper and arsenical mundic. A stope in the back of the 10, west of Cook's shaft, by two men, is worth 10l. per fathom for copper and arsenical mundic. Hampton's shaft is set to sink by nine men; the lode in the shaft continue to improve in size and appearance; it yields some silver ore, but not sufficient to value.

WHEAL UNY.—Wm. Rich, M. Rogers, Jos. Rich, Oct. 20: There has been nothing done in sinking Hind's engine-shaft during the last few days, owing to our having to put in a new saddle and pin to the balance-bob. The ends and other bargains are without material alteration to notice.

WHEAL PRUSSIA.—W. Tregay, Oct. 25: There is not much change here. The 40 end east is producing 1 ton of black tin per fathom, and the 40 end west 2 tons. The deep adit end west produces about 10l. per fathom of black tin.

THE WEEK.

SATURDAY, OCT. 20.—After hours last night it was rumoured that the Great Northern and Midland companies were going to absorb Manchester and Sheffield. For the last few days Sheffield stock has been in demand, sellers not making much difficulty about the price. Friday night's price was 79½ at the finish. Very early this morning a bargain—the first—was done at 82½; shortly afterwards business was done at 83½. Between twelve and one o'clock the price remained at 82½, but towards the close there was considerable fresh bidding, and the last price was 83¾—a rise of 4¼. York, A, and Midland rose 1¼. The Brazilian Submarine Company announce a further dividend of 2s. 6d. per share, and 40,000l. is to be added to the reserve fund, bringing it up to 120,000l. The shares pay a high rate of interest at their present cheap figure. Parys Mountain shares gave way 2s. 6d., to 10s., 12s. 6d. Richmond was in demand at 6¾.

MONDAY.—Saturday's rise in Sheffield was considered rather premature. Parliamentary sanction will be requisite; fierce opposition on the part of the Birmingham and Great Eastern companies may be expected. Business was done in Sheffield early at 83½, but the last price was only 82½, or a fall of 1¼ on the day. Midland and Great Northern, of course, gave way too. In paying a dividend of 5 per cent, and carrying forward a balance of 1223l., it was stated that over 7200l. had been received by the Yarmouth Aquarium, the profits being really equal to 10 per cent. on the share capital. The shares are quoted 4½ to 5 (5l. being paid). For August Port Phillip made a net profit of 1338l. The shares were dealt in to-day at 5/8. Almada dull at 5s., and Kapanga offered at 1¼. Chapel House, 2¾ to 3. Alltami, 4¼ to 4¾.

TUESDAY.—West Chiverton shares now stand at no higher figure than 14, Roman Gravels can be had at 8, Leadhills at 5½, and Tankerville at 5. At least two of the number would pay to buy. Llanrwst, 2⅝ to 2⅞; Parys Mountain, 10s. to 12s. 6d.; Alamillos, 1⅞ to 1⅝; Linares, 6¾ to 6⅝; Derwent, 2 to 2⅛; South Roman Gravels, ⅜ to ⅝. Great Laxey was dealt in at 21, and Van at 31½, both ex div.; the former keeps remarkably firm. A recovery was shown in Grand Trunk Securities. The Second Preference was dealt in at 29¾; on Saturday last the price was down to 27½, the Third, then 16⅛ to 16¼, were quoted to day 17¾ to 17⅛. There was an active demand for North British, which left off at 94½, being 2l. higher on the day. At the Wheal Crebor meeting a 2s. call was made.

WEDNESDAY.—North British stock was rushed up to 95 in the morning; later in the day there was a sharp reaction, and the price at the close was only 93. Great Laxey shares were to-day dealt in at 21½. The directors of Eberhardt received a remittance of bar silver valued at 200l. Shares left off 5 to 5¼. Exchequer, 6s. to 8s. I.X.L., 5s. to 7s. 6d. Malabar, 1-16th to 3-16ths. Port Phillip, ⅛ to ⅜. The shares of Eley Brothers were to-day quoted 27 to 28, or 10s. higher. They now stand at a remarkable premium, only 10l. being paid. The company was established in 1874, with a capital of 250,000l., to acquire the well-known business in Gray's Inn-lane of sporting and military cartridge manufacturers, carried on for 30 years by Eley Brothers.

THURSDAY.—The stoppage of the Northfield Iron Company was announced. The works are in the neighbourhood of Sheffield. Started five years ago, there has been nothing paid to the shareholders, and as there is a liability of 2l. 10s. per share the winding-up, it is feared, will be a disastrous one. A fortnight ago the shares could be sold for 4l., now there are no buyers. The Grand Trunk Railway report issued this morning shows a balance of 701l. to be carried forward. Last half there was a balance of over 11,000l. Not a word is said about any payments to the holders of the various preference stocks. Probably they never expected anything. Alamillos was dealt in at 1¾, Chicago at 1¾, Flagstaff at 2, Quebrada at 1⅝, and Richmond at 6¾.

FRIDAY (Opening).—Railways are very strong. Metropolitan District, Sheffield, and Chatham Preference are each 1l. higher; at 57, 84, and 83 respectively. To-morrow is "making up" day, and those who are short of stock are apparently buying in a hurried manner. There is some active dealing in Richmond. Buyers commenced by offering 6¾, and soon after 7. Van shares are in good demand at 32½. West Wye Valley, 2½ to 3. Grogwinion, 3 to 3¼. Condes of Chili, 2 to 3. Aberdaunant, ⅛ to ¼. Llanrwst, 2⅝ to 3. Chapel House, 2¾ to 3. Newport Abercarn, 3¾ to 4¼.—*Two o'Clock.*—Consols have been put up to 96⅜, and the tone for railways is still good. Midland have improved ⅛ per cent. Sheffield have been as high as 85. Parys Mountain, 9s. to 11s. Rookhope, 20s. to 22s. 6d. Alamillos, 1⅝ to 2. Leadhills, 4⅞ to 5⅛. Tankerville, 4⅞ to 5⅛. Thorp's Gawber, 2¼ to 3. Great Western Colliery, 1 to 1¼.—*Four o'clock.*—Metropolitan has touched 117½, but North British have given way, it being stated that the chairman has declined to entertain the proposal for dividing the stock into preferred and deferred. Richmond are easier; now quoted 6⅝ to 6¾. Milner Safe, 7⅜ to 7⅝. Lawes' Chemical, 7 to 7⅛. Alltami Colliery, 4¼ to 4¾. Gorsedd and Merllyn, 5½ to 6. East Van, 3 to 3¼. General Credit, 6⅜ to 6⅝.

Birchin-lane, Oct. 26. FERDINAND R. KIRK.

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

THE COST-BOOK.—The "Shareholder" who asks a question in last week's Journal should remember that a cost-book company is a mutual partnership, and that if he sends a proxy to a partner giving him full powers to act, and that partner signs the cost-book for him, he is committed to the accounts entered in the book; and we should imagine, also, for all existing debts, whether entered or not. If everyone attending a cost-book meeting would insist on knowing the exact state of the accounts, the present kind of complaint could not exist. Every man in a cost-book mine is supposed to be his own auditor; but as they generally neglect this most important part of the business, committees (in London) have been appointed to undertake it, and these meet every month and audit all accounts, &c. The heavy debts on certain mines in Cornwall have been known and remarked upon in the *Mining Journal* for many years past. They existed, and were allowed to exist, because the majority of shareholders (who well knew of them) made no efforts to pay them, because they would have involved heavy calls upon their own pockets; they relied on a lucky turn in the mines or in the metal markets to assist them, and both beat them. But the Cost-book System which, when properly conducted, is the simplest and best for mining purposes, should not be condemned for abuses such as these. Limited liability is much in favour just now, because a man, as he says, puts a certain amount of money into a concern knows his loss, and knows also he cannot be made liable for more. But in this way many good speculations have lately been sacrificed at the point of success, because shareholders such as these have refused to provide more money after the "limited" capital has been exhausted.

BANTRY BAY BARYTES.—We have a copy of the circular referred to last week, and this company would seem to offer a fair commentary on our remarks above on limited liability. It is a property that with a small amount of money might, it is said, be made to pay 20 per cent. on the whole capital—but the difficulty is in getting it. There is a great demand for pure white barytes, and it is believed that this is about the only quarry that can supply any large quantities of it. A year ago the company were just getting into good and profitable sales, when their agent (at Manchester) dishonoured his acceptances for two or three cargoes, and upset the financial machinery of a very limited company. The directors have now in hand *bona fide* orders for 2000 tons of best quality as well as for quantities of seconds already raised and paid for, and only requiring to be put on board ship. With 1000l. in hand they think they could make profits equal to 20 per cent. on the whole capital of the company, if not considerably more; and as a number of the 10,000 shares of 1l. each, fully paid-up, were never issued, they are about to ask the shareholders to take them, and a few more besides, 1l. paid, at 10s. discount, with a preference dividend of 10 per cent. out of profits. Should the shareholders not take them all up, we shall have 500 to dispose of at the price named—10s. for 1l. paid. We may add that, before offering to take 2000 tons of the best barytes at the rate of 150 tons a month, the buyers visited the property and fully satisfied themselves as to its capabilities and value.

CLEMENTINA.—A large stream of water is issuing from the 34 end, which leads the agent to think he is very near the east and west lode, which in the bottom of the 25 was worth in one place 3 tons of lead ore per fathom. The 25 level has been drained, so that a winze can now be sunk on a lode worth 1 ton of lead per fathom.

D'ERESBY.—The lode in No. 3 adit has improved to ½ ton of lead per fathom. No. 4 is worth 15 cwts. of lead per fathom. Another lode in this adit is worth 4 tons of blende per fathom. The agent states that he can make regular monthly sales as soon as the wheel and crusher are up.

SATURDAY, OCT. 21.—The chief dealings to-day have been in Van, Great Laxey, South Condurrow, and Tankerville. Van, 30 to 32; Great Laxey, 20 to 21; South Condurrow, 8 to 8½; Tankerville, 5⅛ to 5⅜; Parys Mountain, 11s. to 13s.; Rookhope Lead, 20s. to 22s. 6d.; Roman Gravels, 8 to 8¼; South Frances, 2¼ to 2⅜; West Tolgus, 75 to 77½; Leadhills, 5 to 5½; Glenroy Lead, 15s. to 20s.; West Chiverton, 14 to 15; East Van, 3 to 3¼.

MONDAY, OCT. 22.—Market very quiet, and prices almost nominal. Carn Brea, 36 to 38; Dolcoath, 34 to 36; East Van, 3 to 3½; Glenroy Lead, 15s. to 20s.; Great Laxey, 20 to 21; Ladywell, 17s. 6d. to 22s. 6d.; Leadhills, 5 to 5¼; North Laxey, 11s. to 13s.; Parys Mountain, 11s. to 13s.; Penstruthal, 4s. 6d. to 6s. 6d.; Roman Gravels, 8 to 8¼; Rookhope Lead, 20s. to 22s. 6d.; South Condurrow, 8 to 8½; South Roman Gravels, 10s. to 15s.; Tankerville, 5 to 5¼; Tincroft, 14½ to 15½; Van, 30 to 32; West Chiverton, 13 to 15; West Tolgus, 75 to 77½; Agar 3½ to 4; Grenville, 3 to 3½; Eberhardt, 4¼ to 5¼; Richmond, 6 to 6¼; Flagstaff, 2 to 2¼; Frontino, 3 to 3¼; Javali, 6s. to 8s.; New Quebrada, 1¾ to 2¼.

TUESDAY, OCT. 23.—The market continues very inactive, and prices are without any material alteration.

WEDNESDAY, OCT. 24.—Van and Great Laxey shares have been in demand, and close firm, at advanced prices. Quotations for the day are as follows:—Carn Brea, 36 to 38; Dolcoath, 34 to 36; East Van, 3 to 3¼; Glenroy Lead, 15s. to 20s.; Great Laxey, 20½ to 21½; Ladywell, 17s. 6d. to 22s. 6d.; Leadhills, 4⅞ to 5½; Grogwinion, 3¼ to 3⅜; North Laxey, 11s. to 13s.; Parys Mountain, 11s. to 13s.; Penstruthal, 5s. to 7s.; Roman Gravels, 7¼ to 8¼; Rookhope Lead, 20s. to 22s. 6d.; South Condurrow, 8 to 8½; South Cwmystwith, 3 to 3¼; Tankerville, 5 to 5⅛; Tincroft, 14 to 15; Van, 31 to 33; West Chiverten, 13½ to 14⅛; West Tolgus, 75 to 77; Agar, 3⅛ to 4; Grenville, 3 to 3⅛; Wye Valley, 2⅛ to 3; Richmond, 6 to 6¼; Eberhardt, 4¾ to 5⅛; Flagstaff, 2 to 2¼; Frontino, 3 to 3¼; Javali, 6s. to 8s; New Quebrada, 1¼ to 2.

THURSDAY, OCT. 25.—Market for tin shares very active at advanced prices. Great Laxey and Vans firm at quotaions. Carn Brea, 40 to 42½ (rise of 4l.), Dolcoath, 36 to 38 (rise of 2l.); Tincroft, 15 to 16 (rise of 1l.); Van, 31½ to 33½ (rise of 10s.); Great Laxey, 20½ to 21⅜; Glenroy, 17s. 6d. to 20s.; North Laxey, 11s. to 13s.; Rookhope, 20s. to 22s. 6d.; South Roman Gravels, 10s. to 15s.; Leadhills, 4⅞ to 5⅛; Roman Gravels, 7¾ to 8⅛; Tankerville, 5 to 5⅛; Grogwinion, 3 to 3⅛; Parys Mountain, 11s. to 13s.; West Tolgus, 75 to 77; West Chiverton, 13 to 14; East Van, 3 to 3⅛; Penstruthal, 5s. to 7s.; Wye Valley, 2⅛ to 3; West Wye Valley, 3 to 3¼; South Cwmystwith, 3 to 3⅛; Richmond, 6 to 6¼; Eberhardt, 4¼ to 5¼; Javali, 6s. to 8s.

FRIDAY, OCT. 26.—Market firm for tin shares. Vans advanced to 32½, buyers. Carn Brea, 40 to 42½; Dolcoath, 35 to 38; East Van, 3 to 3⅛; Glenroy Lead, 15s. to 20s.; Grogwinion, 3 to 3⅛; Great Laxey, 20½ to 21½; North Laxey, 1s. to 13s.; Parys Mountain, 10s. to 12s.; Rookhope Lead, 20s. to 22s. 6d.; Roman Gravels, 8 to 8¼; South Roman Gravels, 10s. to 15s.; Van, 32½ to 35; West Tolgus, 72 to 74 (ex div. 30s.); Grenville, 3 to 3⅛; West Wye Valley, 3 to 3⅛; Leadhills, 4¾ to 5¼.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspondence: Notes from the West of England; Rock-Boring Machinery—No. X. (J. Darlington); the Barometer, and Colliery Explosions; Colliery Accidents, and Mr. Macdonald, M.P.; Colliery Explosions, and their Ventilation; the Metal Trade—Foreign Competition; Mining in South Australia (A. Thomas); the Central Swedish Iron Company; the Richmond Mine; Peat Fuel (T. King); Bismuth Bronze; the Caron Lead Mining Company, Cardiganshire (C. Kneebone); the China-Clay Trade (J. F. Pagen); Epitome of Mines and Metals—No. 1 (J. H. James); Great Holway Mine; Mining in Montgomeryshire; the Cambrian Mines, Cardiganshire (R. Tredinnick); the Gossan Deposits at the Cambrian Mines (Thomas Glanville); South Condurrow, and Wheal Grenville; South Condurrow Mine; "C. W.," and South Condurrow; Wheal Greville Mine; Wye Valley Mine, and Mechanical Borers; Glenroy Mine (J. Barkell); New Brook Wood Copper Mine, Buckfastleigh—Foreign Mining and Metallurgy—Registration of New Companies—The Scotch Mining Share Market—Meetings of the Providencia and New Rosario, Van Consols and Glyn, Medlyn Moor, Wheal Crebor, Mellanear, North Treskerby, Wheal Owles, and Cathedral Mining Companies, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, OCT. 26, 1877.

IRON.	£ s. d.	£ s. d
Pig, GMB, f.o.b., Clyde..	2 12 2½ –	—
,, Scotch, all No. 1 ...	2 14 0- 3 10	0
Bars, Welsh, f.o.b. Wales	5 5 0- 5 10	0
,, ,, in London.	5 15 0- 5 17	6
,, Stafford., ,, .	7 0 0- 8 0	0
,, in Tyne or Tees ...	5 10 0- 5 15	0
,, Swedish, London ..	9 2 6- 9 12	6
Rails, Welsh, at works..	5 0 0- 5 2	6
Railway chairs	— –	—
,, spikes	— –	—
Sheets, Staff., in London	8 15 0- 9	0 0
Plates, ship., in London	7 0 0- 7	5 0
Hoops, Staff.	7 10 0- 8	0 0
Nail rods, Staff. in Lon.	7 0 0-	—
STEEL.		
English, spring	.16 0 0-20	0 0
,, cast	.35 0 0-45	0 0
Swedish, keg.....	.16 0 0-	—
,, fag. ham.	.17 0 0-	—
LEAD.		
English, pig, common .	20 0 0-20	2 6
,, ,, L.B. nom.	20 5 0-	—
,, ,, W.B.	20 10 0-	—
,, sheet and bar..	21 0 0-21	5 0
,, pipe.....	21 10 0-	—
,, red	22 5 0-22	10 0
,, white	27 5 0-28	0 0
,, patent shot ...	24 10 0-	—
Spanish.....	19 15 0-	—
QUICKSILVER.		
Flasks of 75 lbs., ware.	7 15 0-	—
SPELTER.		
Silesian or Rhenish ..	19 5 0- 19	7 6
English, Swansea	21 0 0-	—
Sheet zinc	22 10 0- 24	0 0

TIN.	£ s. d.	£ s. d
English, ingot, f.o.b ...	73 0 0- 74	0 0
,, bars ,, ...	74 0 0- 75	0 0
,, refined.....	76 0 0-	—
Australian	68 10 0-	—
Banca	70 0 0- 71	0 0
Straits	68 10 0- 68 15	0
COPPER.		
Tough cake and ingot.	70 0 0- 72	0 0
Best selected	72 0 0- 73	0 0
Sheets and sheathing .	75 0 0- 76	0 0
Flat Bottoms	79 0 0-	—
Wallaroo	76 10 0- 77	0 0
Burra, or P.C.C.	74 0 0- 74	10 0
Other brands	72 0 0- 73	0 0
Chili bars, g.o.b..nom.	65 10 0- 66	0 0
PHOSPHOR BRONZE.		
Bearing metal	£112	0 0
Other alloys	£120 0 0- 140	0 0
BRASS.		
Wire	8d.	– —
Tubes.....	10	– —
Sheets	9	– —
Yel. met. sheath. & sheets.	5½	– 7½
Nails composition.....	8¼	– 9¼

TIN-PLATES.*	per box.
Charcoal, 1st quality ...	1 0 0- 1 1 0
,, 2nd quality ...	0 19 6- 1 0 0
Coke, 1st quality	0 18 0- —
,, 2nd quality	0 17 6- —
Black .....per ton	16 0 0- 16 10 0
Canada, Staff. or Gla., at Liverpool	11 10 0- 12 0 0
Black Taggers, 450 of 14 × 10	30 0 0- —

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The situation of the Metal Trade is less favourable, if anything, than before, and we have again to report very unsatisfactory markets; the demand still continues much below the average, and many houses are doing next to nothing, and great difficulty is everywhere experienced in obtaining fresh business. The hopeful feeling respecting tin which animated some few operators a week or two back seems to be giving place to one of mistrust, and it is not improbable that those who were led away by the impulse of the moment will eventually sustain serious losses. The prospect of diminished demand and lower prices is surely enough to cause holders to be fearful of the consequences of allowing the present opportunity to escape without using every effort to realise as much of their stocks as possible, and unless they do avail themselves all they can of the existing demand they will certainly have no excuse to offer for their irreparable neglect. It is perfectly evident that under existing circumstances a speculative movement is most inopportune, and will undoubtedly terminate unsuccessfully, and for this obvious reason—that consumers are not able to follow up an advance, neither would they if they could, for the legitimate trade of the country forbids it, and speculation, therefore, should not be allowed in any way to interfere with its reorganisation and development, for we are not sufficiently advanced yet awhile to admit of higher rates, or to be inconvenienced and troubled with occasional interruptions from outsiders, and as it is necessary that further time must elapse ere trade can be restored to a sound and healthy state, speculation on any extensive scale would greatly hinder instead of assist the progress of our market. Speculation, therefore, at such a time is much to be deplored. The demand must flow naturally, otherwise there will be no permanence and stability in prices, and the general improvement will only be so much longer deferred. Many difficulties have yet to be overcome before a revival can take place, and there are no signs at present of any improvement of a really favourable and promising character.

The home consumption and the shipping trade are both very dull. The war has every appearance of dragging on through the winter. France is in a very unsettled and revolutionary state, and the future course of the money market is hazardous. The Times remarks that those who are now congratulating themselves that the worst is passed in the money market are to some extent pleasing their imagination with a fool's paradise, and we fear that those who indulge in the pleasing anticipation of an immediate permanent upward tendency in the metal market are also in a fool's paradise; but although they will probably find it an expensive diversion, yet it is a poor consolation for the consumer and shipper, who are suffering so much from loss of trade, to have their regular business injured and deranged at such a critical and distressing period. We trust that speculation will be kept within moderate bounds, and that holders will freely meet the requirements of the market. Premature speculation not only unsettles the markets, but may ruin them for a very considerable time.

COPPER.—The position of copper is getting worse. For several years past the trade in this metal has become considerably larger, both as regards increased production and increased consumption. Unfortunately, however, just now the former still goes on, whilst the consumption has lately become very much reduced. The natural consequence of this state of affairs will be an accumulation of stocks, which, indeed, begins to show itself already, the quantities of copper in stock in Europe and afloat for Europe, having been on Sept. 1 38,952 tons; Oct. 1, 40,523 tons; and Oct. 15, 41,811 tons; and no doubt will go on increasing. Apart from this it is well known that the stocks of English raw copper in the hands of some smelters are very large (being estimated at several thousand tons), and there were in the warehouses in Swansea on Oct. 1 unsold ores and regulus, not Chilian (and therefore not included in the public trade statistics), equal to about 2200 tons of fine copper. The great question, therefore, is—Will there be any decrease in the supplies or not? We think not, for there is not only no prospect of decrease, but, on the contrary, every chance of increase in the supplies. Taking the production of Chili to remain stationary, and the present prices as paying the Chilian producers, owing to the decline in the rate of exchange in Chili (present rate 41½d. per dollar, against 45½d. per dollar), they still get, according to last advices, $15·30 per quintal for bars, against about $14 in 1870, in which year they sent us just as much copper as they ever shipped. The supplies from Spain, Newfoundland, Cape, &c., will show an increase this year equal to about 10,000 tons of pure copper, and according to well-informed persons will show next year a further increase of from 5000 to 7000 tons. The production of the United States of America has very much increased of late years, and Australia, too, has been increasing, although it is calculated that the production of some of the mines there will fall off next year; this, however, will be balanced by the increase of the make of the fine German sorts, so that taking everything into consideration, we see a large increase in the production and supply of copper. Respecting the consumption, it is, as we stated before, very slow just now; but supposing it should even get as large as it has ever been, it will barely be sufficient to keep under supplies. What, then, will help copper? Only very much lower prices, which would undoubtedly tend to reduce the production and at the same time to stimulate consumption and absorb the surplus quantities. The market must, therefore, continue downwards for some time. This is the general impression of everybody well acquainted with the state of the copper trade; and indeed, it has manifested itself in various ways this week—firstly, importers of Chili bars have given way, and have sold Lota and Urmeneta at 65l. 15s. English smelters offer tough at 71l., and best at 72l., delivered in Birmingham. Holders of Wallaroo (no doubt anticipating a public sale in November) are now anxious to sell, and would accept about 77l. Manufactured 4×4 has been sold at 75l. Yellow metal brazier, 6¾d.

IRON.—There is very little change to report in this market; the demand continues extremely limited, and makers find great difficulty in keeping their mills employed. The reduced prices do not appear to produce any effect at present, and it seems exceedingly doubtful when a favourable turn will take place. The Belgian houses are still about 5s. to 7s. 6d. per ton below our commonest qualities, and it is utterly impossible to move upwards while they are underselling us to this extent; the only question is whether we shall be able to maintain our present position. As they have hitherto taken the lead in reducing prices they may possibly be the first to advance them, but we think there is no probability of their doing so yet. Belgian bars are offering for delivery in London at 5l. 6s to 5l. 7s. 6d. per ton, whereas English merchant bars are about 6l. 15s. per ton. Present prices are no doubt low in comparison to recent years, but they were 10s. to 20s. per ton lower in some kinds in 1852, and then we had no such competition as now exists in Belgium and America. The season is now too far advanced for any favourable impression to be made upon the prices of iron, and we must wait for another year before any good can be done. By next spring something better may offer, but it is doubtful whether there will be much of a move before then. India will probably have recovered by that time, and it is hoped that France will have established a solid form of government, and that the Russian invasion of Turkey may be abandoned, and the Eastern Question in a fair way of settlement. If these things terminate satisfactorily there would soon be renewed confidence, and an increased amount of business transacted, but it is the state of uncertainty that prevents anything being done, and in the meantime stocks accumulate, and sellers are obliged to submit to sacrifices to enable them to sell. There is scarcely anything more depressing than to find business declining upon a falling market, for that is a double difficulty which sellers have to encounter, and a terrible strain upon them. Many of our ironmasters declare that they are selling below cost of production, and they are merely doing it in the hope of business improving by-and-bye, and many believe that the Belgian trade is in every respect as unremunerative as our own, but that Government subsidies are made, which enables the works to be carried on at a loss; if this is so, it is rather hard upon our ironmasters to have to bear up against a Government power.

The reduced prices of iron will sooner or later have the effect of increasing the consumption, and that will in due course bring a favourable opportunity for realising higher prices. Consumers may fairly begin to buy for stock, which should be gradually increased as times goes on that when a rise does take place consumers will be well provided against the advance, and have something to make a little money upon. Buyers have always to guard against paying too much, but there is no great danger in beginning to buy at present rates. We do not consider there is any immediate hurry to act, as there is no appearance of any upward tendency, but buyers should look round and see what they are likely to require, and make their arrangement in good time, so as to be ready to make a contract at an opportune moment. Scotch pigs are now quoted 52s. 2½d.

SHIPMENTS.

Week ending Oct. 21, 1876 ..... Tons	10,278
Week ending Oct. 20, 1877	8,956
Decrease	1,322
Total decrease for 1877	2,902
Imports of Middlesborough pig-iron into Grangemouth:—	
Week ending Oct. 29, 1877 ..... Tons	4,655
Week ending Oct. 21, 1876	4,179
Increase	476
Total increase for 1877	59,722

FURNACES.

In blast Oct. 14, 1876	118
In blast Oct. 13, 1877	87

TIN.—This metal is under the dominion of speculators, and it is, therefore, impossible to say what the immediate future of the market may be, for when once speculation is brought to bear upon an article it may be carried to any absurd limit. The rise already appears to us beyond what circumstances justify, but speculators seldom give much heed to anything beyond the amount of profit they can secure, and totally disregard the ultimate effect upon legitimate trade. Buyers must, there ore, be on the alert, for the bulk of the stock is in comparatively few hands, and if holders choose to exercise the power they possess they would perhaps experience no great difficulty in effecting a further temporary rise; at the same time we firmly believe that it would be the means of bringing about a more rapid decline, and in that case we should not be surprised to see the price recede below that from which it started; but if holders are fortunate enough to be able to produce statistics that will show even a slight falling off up to the end of the year it will be quite sufficient to help them in carrying prices higher than those at present quoted. There is an abundance of tin in stock, and sooner or later it will have to be sold, but just now holders seem rather disinclined to part with it unless they can obtain full prices, and the consequence is that the available quantity is not so very great, but supposing any severe pressure to sell suddenly overtook the market it would then go back with as much celerity as it advanced, for a speculative rise without legitimate demand to support it is exceedingly dangerous, and liable to collapse at any moment.

LEAD.—This metal keeps steady. The recent arrival of parcels of pigs from New York looks as if there was not much sale for lead in that market at the present time.

TIN-PLATES are in better demand for America, and prices for coke are mostly firmer.

QUICKSILVER.—Importers have not changed their price from 7l. 15s., at which moderate sales have been effected; second hand parcels have been sold slightly under the official quotation, but there has not been any large quantity on offer. The San Francisco market is still unsettled, but the price remains steady, at 45 c.; and there appears to be no probability of further re-shipments from China. On the contrary, 2873 flasks were shipped from San Francisco to Hong Kong during September. Receipts for the past month, 6053 flasks, against 5103 in 1876.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening.—Scotch pigs have again receded, the price this afternoon at the close of the market being 52s. 1½d. buyers, fully 6d. less than the price last Friday. We quote makers' No. 1 Iron, Gartsherrie, 60s. 6d.; Coltness, 66s.; Calder, 61s. 6d.; Langloan, 62s. 6d.; Summerlee, 59s. 6d.; Monkland, 54s. 6d., f.o.b. Glasgow; Glengarnock, 59s.; Eglington, 54s. 6d., f.o.b. Ardrossan: Shotts, 61s. 6d. f.o.b. Leith; Kenniel, 55s. 6d., f.o.b. Bo'ness. Since Quarter-day there has been a moderately steady business. The most noticeable feature in our market is the demand for sheet iron, which has kept up, and, perhaps, increased since Quarter-day. A large order for sheets given out for consumption in the North of Europe was distributed between three or four firms, to facilitate the earlier execution. These orders have given some impetus to the demand for Staffordshire sheet iron, which may remain in force for some little time to come. The demand for galvanising sheets is also tolerably active. Nail rods are in moderate request for shipment. We have also considerable business doing in marked Staffordshire bars. Second-class Staffordshire iron is quiet. Welsh bars generally supersede this kind of iron in our market. We have no business to report in rails. The contract advertised by the Government is not yet closed. The Indian Government require iron sleepers for 175 miles of railway, which will consume a very large quantity of wrought, cast-iron, or steel. Tenders to be sent as usual to Mr. Gerald Talbot before the 17th proximo. The demand for boiler plates continues flat. There is no change of importance to record in pig iron this week. Barrow, Glasgow, and Birmingham markets remain the same; Middlesborough continues weak. Metals remain unchanged, with a want of animation all round.

Messrs. FRY, JAMES, and Co.—COPPER: A continuance of the want of life noted in our last has prevailed during the past fortnight, resulting in the last few days in rather lower prices having been accepted for Chilian and for English. Australian, having been very generally withheld from the market, has maintained quotations.——IRON is uniformly dull.——TIN: The advances stablished early in the month is fully maintained, and considerable business has been doing.——LEAD is steady in value, but quiet in demand.——SPELTER is being very little dealt in.——TIN-PLATES selling fairly at very low rates.

Messrs. BROOKER, DORE, and Co.—SCOTCH PIGS: The market has been a declining one; warrants having receded during the month about 1s. 6d per ton, makers' brands have been reduced to the extent of 6d. to 1s. 6d. per ton.——FINISHED IRON: Since the reduction reported in our last, no changes have taken place in the prices of either best or second-class brands of South Staffordshire iron, but an important alteration has been made in best sheets. On Oct. 1 Messrs. E. P. and W. Baldwin issued a fresh list, showing a reduction of from 30s. to 40s. per ton on their Severn and Wilden brands.—HARDWARE: Further changes have been made in manufactured goods during the past month. The discount off tinned and enamelled Holloware and cast butt hinges has been increased 5 per cent. Cast lath and wall nails have been reduced 1s. per cwt.—TIN-PLATES unchanged.——GALVANISED IRON still in good demand.——FENCING WIRE: On the 12th inst. the Warrington houses reduced the prices 10s. per ton, making the price of No. 6 drawn annealed 10l. 5s. per ton, delivered in London pool. Our prices for Excelsior brands remains unchanged at 9l. 15s. Lively, with material change.——SPELTER: Firm market.

Messrs. PIXLEY and ABELL—GOLD.—The only export during the week consists of sovereigns, which, to the value of 185,000l., withdrawn from the Bank, have been sent to Egypt, Lisbon, and the Cape. There has been no enquiry for bullion either for Germany or elsewhere, and about 105,000l. from the undermentioned arrivals has been purchased by the Bank. We have received since our last 50,000l. from Bombay, 50,000l. from New Zealand, and 11,000l. from India, total 111,000l. The P. and O. steamer takes 109,490l. to Alexandria, the Danube 25,000l., the Cape, and the Elbe 6430l. to Lisbon.——SILVER.—Owing to the small supplies, the market has gradually improved in value, and we give 55⅛d. per oz. as the nearest quotation of this day. The arrivals have been 48,490l. from New York, but we have no advices to report from Germany this week. The P. and O. steamer takes to-day 42[illegible] to Bombay.

The MINING SHARE MARKET has not shown much change since our last, and the actual business transacted has been comparatively small, though some of the tin mines have been in better request, and at improved quotations.

The mines chiefly dealt in have been Van, Great Laxey, Rookhope, Roman Gravels, Tankerville, West Tankerville, Dolcoath, Carn Brea, West Tolgus, Leadhills, Parys Mountain, North Laxey, Glenroy, and a few others.

TIN MINES.—The further expected rise in the standard for tin ores has not yet taken place, but there has been a better feeling for tin mines, and an advance in price of the metal is generally looked for. Dolcoaths are now quoted at 36 to 38; Carn Brea, 40 to 42; Tincroft, 15 to 16. Wheal Owles meeting was held on Friday, but the accounts for four months showed a loss of 28l. on four months working. The tin credited as sold realised 3590l. This mine has been stocking its tin for a long time past, and is presumed to have a large quantity on hand, the debit balance against it being 21[illegible]. No call was made at the meeting. South Condurrow has advanced to 8¾ to 9¼; Cook's Kitchen, 30s. to 35s.; Penstruthal 5s. to 7s. 6d.; South Francis, 2½ to 2⅝; West Basset, 30s. to 35s.; West Frances, 3½ to 4; Wheal Agar, 3⅜ to 4½; Wheal Basset, 12 to 14; Wheal Grenville, 3 to 3⅛; Wheal Peevor, 4¼ to 5⅛; Wheal Uny, 15s. to 17s. 6d. (ex div.); at the meeting a dividend of 1l. 10s. per share was declared. The accounts for two months showed a profit of 1441l., and a credit balance of 1849l. The copper ore sold and credited in the accounts realised 5170l. The cash balance left in hand, after payment of dividend, is 1081l., and the ore already sold for next meeting realised 4318l. The mine is reported as looking well. Mellanear accounts show sales of copper ores for six months 5145l., and profit of 434l. The reserves in the mine are valued by the agent at 11,000 tons, worth 42,000l. Wheal Crebor, 1½ to 2; at the meeting, particulars of which will be found in another column, a call of 2l. per share was made. The accounts showed a loss on the quarter of 239l. 1s. 3d., a cash balance against the company of 172l. 11s., and liabilities over assets of 123l. 18s. 11d. The sale of ores this quarter realised 661l., or 500l. less than the same quality ore would have brought two years ago. This, and the expenses attendant on sinking the new shaft, &c., has rendered the call necessary. The report of the mine is favourable, and it is determined in future to sample the ores two-monthly instead of quarterly.

Parys Mountain, 10s. to 12s. 6d.; the agent writes that from the appearance of the 90 cross-cut, where he is con-tantly meeting with rich strings and branches of copper ore, he has reason to hope they are not far from something valuable. Devon Great Consols, 2½ to 3; Richards's engine-shart is now down nearly 300 fms. from the ground more favourable for sinking. No particular change in the mine. East Caradon, ⅜ to 1; Gawton, 2s. 6d. to 5s.; Hingston Down, 2s. 6d. to 5s.; Prince of Wales, ¼ to ⅜; Tolgus Consols, 5 to 5½; Bedford United, 2s. to 4s.

In LEAD MINES there has been more doing in lead mines than in either tin or copper; still, the business transacted has not been of any great amount. Roman Gravels, 7¾ to 8¼; the 106, or bottom level south, is worth ½ ton of lead ore per fathom. The sale of ores (175 tons) realised 2204l. 7s. 6d., and 25 tons of blende 103l. 2s. 6d.; total sale, 2307l. 10s. Minera, 18 to 20; at the last board meeting the directors declared a dividend of 3s. per share from the profits of the Michaelmas quarter, payable on November 12, making a total of 67l. 8s. 2d. paid as dividends upon each 5l. share. Ladywell, 17s. 6d. to 22s. 6d.; the sale here (20 tons) realised 222l. 10s. Great Laxey shares are in request at 20½ to 21½; Glenroy, 17s. 6d. to 20s.; North Laxey, 11s. to 13s. Pateley Bridge, 2 to 2½; the Rake, 1 to 1½; in the 30 east has greatly improved, and is now 8 ft. wide, and worth 3 tons of lead ore per fathom. The agent hopes soon to report another parcel of 30 tons of pig lead. West Pateley, 1½ to 2.

Tankerville, 4⅞ to 5⅛; West Tankerville, 15s. to 17s. 6d.; Rookhope, hope, 20s. to 22s. 6d.; Van in demand at an advance to 32 34; Vans, 3 to 3⅛; Van Consols, ⅜ to ½; Assheton, ⅜ to 1½; Glyn, ⅜ to ½; Great Dyliffe, 1⅜ to 2⅛; Herodsfoot, 6 to 6½; Leadhills, 4⅞ to 5⅛; Llanrwst, 2½ to 3; Pandora, ⅜ to 1; Pennant, 5 to 5½; Gorenick, 5 to 6; Great Holway, 5 to 5½; St. Patrick, 7s. 6d. to 12s. 6d.; Assheton, ⅜ to 1; West Chiverton, 13½ to 14½; Caron, 2 to 2½; Grogwinion, 3¼ to 3⅜; Red Rock, 2 to 2½; South Cwmystwith, 3 to 3⅛; St. Harmon, 2½ to 3; Wye Valley, 2½ to 3; West Wye Valley 3 to 3¼; West Goginan, ½ to ⅝. South Roman Lead, ½ to ⅝; both ends 4 to 5 still look promising.

FOREIGN MINES.—Argentine, 2½ to 3; Blue Tent, 3 to 3⅛; Caracoles, 2½ to 3; Hultafall, 5½ to 6; Chontales, ½ to ⅝; Eberhardt and Ader, 4⅝ to 5½; Exchequer, ½ to ⅝; Flagstaff, 2 to 2½; Frontino and Bolivia, 2⅝ to 3¼; I.X.L., 5s. to 7s. 6d.; Javali, 6s. to 8s.; New Zealand, Kapanga, 1¼ to 1½; Last Chance, ¾ to 1; New Quebrada, 1½ to 2; Pestarena, 3s. 6d. to 5s. 6d.; Port Phillip, 10s. to 12s. 6d.; Richmond, 6½ to 7; Tecoma, ½ to ⅝.

The Market for Mine Shares on the Stock Exchange has been fairly active. On Saturday quite a large amount of business was done, and although the same amount of animation was not observable at the beginning of the present week, there were many more transactions than in the same length of time for many weeks past. With regard to prices an advance has been established in the shares of many Cornish and Devon mines, and some foreign mines also show improvement, whilst in those cases where there has been apparent decline it can sometimes be traced to the previous quotations having been nominal, and not the result of actual transactions. It has frequently been pointed out in the *Mining Journal* that capitalists should entertain the utmost possible suspicion in regard to all concerns put upon the market by syndicates, or those pretend to be in a dividend paying condition immediately after formation, and that those who connect themselves with such undertakings deserve no sympathy when they find their money has been sacrificed. It requires but a very small proportion of common sense to enable the most careless capitalist to determine that no property be capable of returning profits at the rate of 20, 30, or more per cent. per annum, it is improbable that the existing owners will be very anxious to part with it; and all experience shows that whenever an undertaking is put forward as offering extraordinary advantages to the capitalist, either in the shape of immediate dividends or of the purchase having been made under exceptional circumstances, the ultimate result is invariably disastrous. Another piece of evidence in confirmation of this assertion is afforded by the Parkgate Wagon Company, which is said to have gone into voluntary liquidation on Wednesday, though from the Press have been excluded from the meeting no details are forthcoming. Only a few years since, it is remarked, the company was considered a safe concern, it having paid high dividends soon after its formation. During the first two years it paid 30 per cent. each year, the last dividend was 25 per cent., and the last 10 per cent. Since then the history of the company has been a record of uninterrupted misfortunes, the ordinary shares can only be got rid of by giving away; the second issue no one will touch unless they be paid 10l. per share for accepting the remaining liability; and the third issue in scarcely better position. Now, at the first glance it appears as the shareholders have received 30, 30, 25, and 10=95 per cent. dividends, they have merely lost their interest for the three or four years, and 5 per cent. in addition; but, as a matter of fact, they have lost nearly all they have subscribed, for the dividends have

…n declared on the amount paid up only will all have to be re-…rned in satisfaction of the amount uncalled, for it appears that …he August balance-sheet showed that of the 50,000*l.* nominal …apital only 24,000*l.* has been called up. There are, unfortunately, …dozens of companies whose shares are dealt in as dividend stock …which are really in no better position than the Parkgate Wagon …Company, and the true financial strength of which could readily …be ascertained by ordinary enquiry; yet capitalists continue, by …their own indiscretion, to lose their money in them, and then un-…justly decry mining and public companies as dangerous and un-…profitable.

Port Phillip and Colonial, ⅜ to ⅝; the report, dated Clunes, Sept. 1, states that 5135 tons of quartz was crushed on companies' and Tributers' account, yielding 2034 oz. 12 dwts., and the receipts, in-cluding that from tributers, was 4081*l.* The profit was 1338*l.*, which added to previous months' balance raised the available balance to 3555*l.* Of this 1200*l.* was divided between the two com-panies (780*l.* being the Port Phillip share), and 2355*l.* carried to next month's account. A remittance of 800*l.* was forwarded. A telegram has been received states that for the month ending Oct. 10 the gold obtained was from companies' quartz 653 ozs. and from tributers 354 ozs. The profit was 2364*l.*, and 1500*l.* has been forwarded. Yorke Peninsula, ½ to ⅝; pref., ¾ to 1; the advices dated Sept. 3 are con-sidered satisfactory. Morphett's lode is opening out well, and it is believed that the stopes upon it will as soon as commenced greatly augment the general returns. In concluding his report Capt. Anthony states that, on the whole, the prospects of the mine were never so good as now, and nothing seems wanting to develope it into a large and profitable concern but more labour and the necessary machinery, as pointed out in former reports. As to the ore returns, it is stated that, including the 100 tons mentioned in the last report, there have been shipped 300 tons, valued at 3085*l.*, net. This left ore on hand at the date of report of the estimated value of 2815*l.* at the present low price of copper.

Rio de Janeiro, Rio del Rey, 325 to 335; the latest telegram received from Rio das Velho on Tuesday states that the profit for the month of September was 8000*l.* Don Pedro North del Rey, ⅜ to ½; the tele-gram from Rio on Tuesday stated that the produce cleaned up for the first division of October was 1900 oits. Capt. Vivian reports that considering the force available for breaking their output is fair. The quality, so far, for the month is rather low; however, a change for the better may take place at any moment. All works are progressing favourably both at the mines and the surface. The water drawn from the mine has been much the same as for some time past. In consequence of the surface water falling off they have not been able to keep it in fork, therefore no correct measure-ment can be made. The permanent pumping machinery works in connection with the above is progressing as rapidly as their force will permit. A telegram from Rio on Thursday states that the new incline tramroad is finished.

Richmond, 6½ to 7; the usual weekly telegram from the mine states that the week's run was $55,000, from 750 tons of ore, with two furnaces. The week's produce of the refinery was $40,000. It must be very gratifying to the shareholders to observe what large returns have been obtained since the termination of the litigation, and how regularly those returns are kept up. The manager's report states since previous report they have struck ore in the 200 level, which have drifted on its course about 20 ft.; they have about 40 ft. to cut to communicate with the Eureka Consolidated workings on the compromise line, where there is a fine body of ore standing on the Richmond side of the line—as soon as this communication is made they will sink to hole the rise in the back of the 400 level. The ore body in the back of the 400 is rtill improving. The 600 north drift to come under the ore in the 400 is in very soft ground, and easily worked. Good progress is being made with the winze in the bottom of the 800 on the fissure. The 900 main drift is within about 12 ft. of the fissure; they expect to make the communication with the winze some time this month. There is no change in any other part of the mine. The furnaces are doing good work; the re-turns this week are better than last, and the grade of the ore has been higher. Everything both in the mine and furnaces is looking favourable for a very good run.

Hunter Consolidated, 5¾ to 6¼; a telegram received from the mine on Monday states that the furnace had run 4½ days, and produced 500. The previous advices (Sept. 22) referred to the mines as looking uncommonly well, especially Crown Point, where "there are 30 or 300 tons of ore in sight, to say nothing of the large quantity which evidently lies below." Subsequent advices are con-firmatory. The furnace was started on Sept. 28, and is running as well as can be expected until dry; no trouble is anticipated. There was a starting a slight explosion, which did not damage the fur-nace, but singed a man who got too near. They were taking 8 to 10 tons of ore from Crown Point. There are several hundred tons of ore in this mine, and the body is pitching down. At Vulcan the vein is not large, but the fact of re-finding it is regarded as encouraging. The principal work for the next 60 days will be taking out the ore in sight. Colorado United, Ltd; the agents report for September is considered encouraging. The con-tractors have driven Silver Ore tunnel 33 ft., and the Union tunnel has been driven 24 ft. The Brown property is yielding well from the stopes. The top level drift was driven 20 ft. last month on a small branch of low grade mineral. At the dressing works, they have been sending down mineral from the Brown Bear during the past month by the wireway. The machinery, such as it is, has been working well during the past month without any breakdown. They have now taken down the old scaffold erection, and are making such improvements as will facilitate work in this department, and enable them to work summer and winter on all classes of mineral, and the third class mineral will certainly be dressed clean at a cost of $2 a ton, or even less. Everything will then, it is con-sidered, be most substantial and efficient, and justify the outlay of something less than 1000*l.*, including a two boiler engine of 50 horse power.

Flagstaff, 1¾ to 2¼; the directors have received a highly en-couraging despatch from their manager in Utah. He states that a very gratifying result of work for the month of September is—output, 1355 tons, the gross yield of which was $44,071, whilst the estimated cost was $21,007, leaving a net profit of $23,664, or 4,867*l.* 16s. sterling. It is added that this large product was not due to the exhaustion of the mine, but the same amount can be produced for this month. A lively discussion is at present going on in Salt Lake City in connection with the management, and if the old Judge applies that he who has the worst of the argument first loses his temper Judge McBride must certainly be declared to be in the wrong; since he in language which would scarcely be expected from an American gentleman denounces his opponent without replying to the state-ments made; whilst Mr. Lycurgus Edgerton declares that as a servant of the company he considered it to be his duty to address the communications to Mr. Harvey as chairman of the company, and that they were privileged. He states that he addressed his letters to the constituted authorities of the company in order—as it was his duty to do—with a view of bringing about what he deemed the necessary reforms in the administration of the company's affairs both there and elsewhere, and from no other motive. There are certain things stated in those communications of his own personal knowledge, other things from information received, and others which to his mind seemed to be legitimate inferences, deductions, and conclusions, from given premisses. The letters, it seems, were re-plied to by the London board to Mr. McBride, and hence the controversy in Utah. Mr. Edgerton now writes that if there are any expressions or statements con-tained in those letters which are untrue it will give him great pleasure to be ap-prised of them, and he will cheerfully retract them and apologise for having made them; and if Mr. McBride will point them out, accompanied with his per-sonal disclaimer, he will most promptly and most cheerfully make the *amende honorable*. He regards Mr. Harvey's conduct in sending the letters to Mr. McBride unjustifiable, and he mentions that he has an action pending against Mr. Pear-son. He further mentions that in one letter he writes that his advice to the share-holders will be not to recognise or sanction the Billing Hunter-Pearson arrange-ment; no action whatever should be taken upon it in that direction at the present time, but let two or three active and efficient men from the body of the share-holders acting in conjunction with Judge McBride and Mr. Vincent if you and they set themselves to work to importune personally certain of the share-holders to come forward and subscribe 20,000*l.*, and when it is obtained they can go ahead and clean out these Augean stables. This is "the only way whereby you can save their valuable property, unquestionably the most valuable mine—taking with the South Star and Titus adjoined to it—in the Territory of Utah.

Exchequer, ½ to ⅝; as yet nothing has been officially announced of the private negociations for the additional capital. I.X.L., 4/; the shaft is being sunk to the 400 ft. level, and there is nothing yet to report at the other parts of the mine. Eberhardt and Aurora, 4¾ to 5; the directors have received a remittance of bullion amounting to about 2000*l.*

The market for Hydraulic or Gold-Washing shares remains quiet, although there are buyers of the shares at quotations. Some little snow and rain have fallen in parts of California, and miners are an-ticipating a good water season. Blue Tent, 3 to 3¼; very good pro-gress is being made in the various operations at the mines. The new adit is proceeding vigorously, and the work now under way will facilitate working during the coming season, when it is hoped the manager will be able to keep water continuously upon the gravel. Birdseye, ½ to ⅝; Mr. G. S. Powers reports that steady pro-gress is being made in the Waloupa Tunnel, and other necessary dead-work in readiness for the first rains.

Hultafall, 5½ to 6; during the past fortnight the shaft has been sunk 1 fathom, and the lode continues as rich as ever—a solid mass of blende and lead. A further shipment of machinery has been made from Hull, and it is expected that the remainder will be sent off next week.

Lead mines have been fairly active, with a good business doing at (in many cases) improved quotations. Van, 32 to 34; there is no change reported from this mine; everything is progressing satis-factorily. There has been an inquiry for the shares during the week, and prices have advanced. Grogwinion, 3½ to 3⅝; the No. 4 lode has recently improved, and some rich ore ground has been laid open, especially in the intermediate level, where the ore is in some places solid for 9 in. in width. Three good stopes are now at work in this level on the No. 4 lode, and yielding some splending ore for the dressing-floors. The usual monthly parcel of 100 tons has been sampled.

Wye Valley, 2⅜ to 3½; the sinking of the two shafts and other development works are making satisfactory progress, and the pro-spects of the mine altogether show an improvement. West Wye Valley, 3 to 3½; the ore ground in the new discovery at Brooke's shaft has now been proved east and west for a total length of about 21 fms., and it varies in value from 1 ton to fully 4 tons per fathom. A large pile of rich lead is now on the surface, which has been raised entirely from the driving of the levels, and the crushing machinery being nearly completed, the manager states that he expects to sell 40 to 50 tons of lead ore in a few weeks. Caron, 2 to 2½; since the meeting, which was reported in last week's Journal, there has been a very fair enquiry for these shares, and they changed hands yester-day at 2½. The reports from the mine state that there is a con-tinuous improvement as the works progress. The surface is now being laid out for buildings and dressing-floors with all possible dispatch. South Cwmystwith, 3 to 3½; the dressing machinery will very shortly be finished. Mine looking well, and plenty of ore ready waiting to be dressed. Red Rock, 2 to 2½; no news to report this week. Crushing of ore going on well. St. Harmon, 2½ to 3; all points in the mine making capital progress, and prospects con-sidered to be encouraging.

Pateley Bridge, 2¼ to 2¾: the Rake vein, in the 30 east, has very considerably improved, and is now worth 3 tons of lead ore per fm. —a splendid looking lode. The same vein west is also looking well, and worth 12 cwts. of lead ore per fathom. Other parts of the mine improving. Smelting going on rapidly. West Pateley, 1½ to 2; there is nothing special from this mine, but operations continue to progress favourably. No. 2 shaft is now down to the 20, where levels are being driven east and west on a good course of ore.

Subjoined are the closing quotations:—

Assheton, ¾ to 1⅛; Carn Brea, 39 to 41; Devon Great Consols, 3 to 3⅛; Dol-coath, 36 to 38; East Caradon, ¾ to 1; East Van, 3 to 3⅛; Glenroy, ¾ to ½; East Lovell, 1 to 1⅛; Gorsedd and Merllyn, 5¼ to 6¼; Glyn, ¼ to ½; Great Laxey, 20 to 22; Hingston Down, ¼ to ½; Leadhills, 4¾ to 5¼; Marke Valley, ⅝ to ⅞; Parys Mountain, ½ to ¾; Pateley Bridge 2 to 2⅛; Penstruthal, ¼ to ⅜; Roman Gravels, 7¾ to 8¼; Tankerville, 5 to 5¼; Tincroft, 15 to 16; Van, 31 to 33; Van Consols, ¼ to ½; West Assheton, ½ to ¾; West Basset, 1½ to 2; West Chiverton, 13 to 15; West Pateley, 1¼ to 2; Wheal Grenville, 3 to 3½; Almada and Tirito, ¼ to ⅜; Argentine, 2½ to 3; Birdseye Creek, ½ to ⅝; Blue Tent, 3 to 3¼; Cape Copper, 36 to 37; Cedar Creek, ⅜ to ⅝; Chontales, ¼ to ⅜; Colorado Terrible, 1½ to 2; Condes of Chili, 2½ to 3; Don Pedro, ⅜ to ½; Eberhardt and Aurora, 4¾ to 5; Emma, ½ to ¾; Exchequer, ¼ to ⅜; I.X.L., ¼ to ⅜; Flagstaff, 2 to 2¼; Frontino and Bolivia, 2⅞ to 3⅛; Hultafall, 5½ to 6; Javali, 5-16ths to 7-16ths; Kapanga, 1¼ to 1½; Last Chance, ¾ to 1; New Pacific, ½ to ⅝; New Quebrada, 1⅝ to 1⅞; Pestarena, ¼ to ½; Port Phillip, ⅜ to ½; Richmond Consolidated, 6⅝ to 6¾; St. John del Rey, 325 to 335; San Pedro, ½ to ⅝; Sierra Buttes, 1½ to 1¾ ex div.; Tecoma, ¼ to ½; Oregan pref., 4 to 4¼.

COLLIERIES.—Another week has gone by without any material alterations, and with only a limited amount of business in these shares. The reports from the coal-producing districts are not alto-gether as encouraging as could be wished, but there is an improved demand for house and gas coal, and in most districts other qualities remain about the same as last week. The revival in the iron trade is slow, but considerably increased activity is noticeable in the steel trade, and several firms are well supplied with orders for stee rails, tyres, and other large goods, and this will have a reflex action of a favourable character on several of our coal fields. In some districts trade disputes are adversely affecting busi-ness, but in the present state of trade, and more particularly of the Trades Union funds, strikes are not very likely to last long, and we may expect to see during the coming winter months a return to more regular work and better business. The Chapel House Colliery seems indeed to be as busy as ever; working full time, and keeping up a good output, which is readily sold at very fair prices. We hear that the result of the past six months' trading shows a profit exceeding 2s. per ton; and as the management is good, and the company has buyers for vastly more fuel than it is now raising, the prospects for next year, when the output will be more than doubled, appear to be excellent. The shares are firmly held at 3 to 3¼. Alitami shares are quoted 4 to 5; sinking at section D is reported to be pro-ceeding satisfactorily, and good results are looked for. Mold Argoed are steady at 2 to 3, and Llay Hall close at 8 to 10; New Sharlston, 3¼ to 3¾; Newport Aber-carn, 4 to 4¼; Thorp's Gawber, 2¼ to 2¾; Pelsall Coal, 2½ to 3⅛; Cakemore, 2 to 2¼; Cardiff and Swansea, 1 to 1⅛; Andrew Knowles, 18½ to 19; Nant-y-Glo and Blaina, 20 to 22; Consett Iron, 18¾ to 18¼; Benhar, 8½ to 9.

The WEST MOSTYN COAL AND IRON COMPANY, which was formed in 1874, and has a paid-up capital of 87,560*l.*, is inviting subscrip-tions for 2000 TEN PER CENT. FIRST MORTGAGE DEBENTURES of 20*l.* each redeemable by eight annual instalments of 5000*l.*, com-mencing on June 1, 1886. The property is 2211 acres in extent, and is held for 60 years at a low rental, merging into a royalty of 1-15th. The prospectus, which will be found in another column, states that since the company was formed a shaft 15 ft. in diameter has been sunk 140 yards, and two capital seams of coal of excellent quality have been discovered. The Mostyn coals enjoy a large demand in the Liverpool and Irish markets. The posi-tion of the coal field is extremely advantageous, the Holyhead section of the London and North-Western Railway passing through the property. The issue of 40,000*l.* in debentures is for the purpose of sinking a second shaft, constructing a siding to connect with the North-Western Railway, and completing the shipping facilities on the Dee. The debentures will be a first mortgage charge upon the entire property of the company, and will take precedence and rank before the existing capital of 87,560*l.* Mr. John Higson, the company's engineer, reports that this additional capital will be sufficient to complete all the works and ensure an output of 1000 tons per day. A profit of 1s. 6d. per ton upon this quantity will pay the 10 per cent. interest upon the debentures, leaving a balance sufficient to pay 16 per cent. dividend upon both preferred and deferred shares.

The directors of the Colonial Trust Corporation have declared the usual interim dividend at the rate of 8 per cent. per annum for the half-year ended June 30.

A petition has been presented to the High Court of Justice for the winding up of the Niger Merchants (Limited).

PATELEY BRIDGE (Lead).—The great and permanent improve-ment that has taken place in this mine during the past month, par-ticularly at the deepest point of operation—the 30 fm. level east under adit—verifies all that has been stated as to the value of this property. The lode at this point is now 8 ft. wide, and valued by the manager as worth 3 tons of lead ore per fathom; indeed, to quote his own words—"I have not seen a finer looking vein in all my experience during a period of 35 years." Other points continue to open out favourably. Dressing and smelting are proceeding regularly, and the manager hopes to have another parcel of 30 tons of pig lead quickly. It will be recollected that Capt. Williams (manager of the Van), after a recent inspection of the Pateley Bridge Mines, said—"If the trials now being prosecuted turn out so suc-cessful as to guarantee the sinking of the shaft, you will open out as fine a mine as any England." Everything tends to prove that the shareholders will be abundantly rewarded for their outlay.

CWM DWYFOR.—A communication has been effected between the winze sinking below the 10 and the rise in back of the 20, by which means some good stoping ground has been opened out.

MINING IN SHROPSHIRE.—The North Snailbeach Silver-Lead and Barytes Mine will, it is believed, shortly rank with the other pro-ductive mines of the district. The north and south lode has been sunk on to a depth of 13 fms., and a cross-cut has been put through it, proving the lode to be 20 ft. wide, composed of barytes, carbonate of lime, and impregnated with lead ore. This lode has been driven on going into the hill, which will give increased backs of over 50 fms.; the forebreast is looking well, and has every appearance of soon making a course of ore. They are also sinking on an east and west lode, and at a depth of about 14 fms. the lode is over 6 ft. wide, produc-ing barytes, carbonate of lime, blende, and lead ore. In addi-tion to the above, there are other lodes crossing the sett which will form junctions in depth. The deep adit will unwater all these lodes to a depth of about 100 fms., which is a great feature in mining—the saving of pumping power.

SADDLEBACK (Lead).—A good discovery of ore has been made in these mines during the last week. The middle level is being driven on Gategill vein, and the ore which has more or less pervaded the vein for the last 25 fathoms has improved very much, and is now worth 30*l.* per fathom. The water issuing from the end is very heavy, and of a reddish colour. Middle Tongue vein will be cut in a fathom or two, so that everything points to the apparent certainty of a rich and lasting mine being opened out, the backs being about 70 fathoms in height.

MINING PROSPECTS IN NORTH DEVON.—The North Devon dis-trict had been neglected by the mining interest for many years, but now there is a prospect of a dozen mines being opened and worked before another year is over. The prospects of silver-lead mining at Combmartin are exceeding the anticipations of the most sanguine and some remarkable specimens of ore have been exhibited at Barn-staple within the last few weeks, having been taken from lodes in the Combmartin district. A number of earnest speculators are at work trying the ground, and from our own knowledge the opera-tions are being carried out in the least expensive manner, so that the shareholders' capital shall not be wasted as we have known in some setts.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be £c. on receipt; it then forms an accumulating useful work of reference.

COPPER STANDARD.—"T. H. M." (Amhurst-road).—The two standards referred to have no connection with each other—one is for Cornish ores of 6¾ produce; the other for a better class of ore, and for 9 per cent. produce. "T. H. M." should remember that 1 ton of fine copper is contained in little more than 11 tons of 9 per cent. ore, whilst 15 tons of 6¾ per cent. ore will contain scarcely more than 1 ton of fine copper.

MINING JOURNAL FOR SPAIN.—"J. J. T." (Aguilas).—The subscription for Spain is 39 frs., or 1*l.* 10s. 4d. if the amount be remitted to London, or paid to us in London annually; but owing to the heavy cost of collecting in Spain, as compared with other European countries, we are compelled to draw for 50 frs. when the amount is collected at the subscriber's residence.

ANGLO-BRAZILIAN.—The address enquired for, in last week's Journal, by "E. T. S." (Bideford), is—Mr. Robert Wendeborn, *Passagem*, Marianna, Minas Geraes, Brazil.

IMPORTANT NOTICE—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the *Mining Journal* to many countries will be reduced to one fourth. Henceforth the subscription will be 1*l.* 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta' Turkey, Morocco, Tunis, and the Canary Islands. Spain 1*l.* 10s. (50 frs.)

Received,—"H. S." (San Francisco, Oct. 4)—"Shareholder" (Wheal Crebor)—"Constant Reader" (Newcastle)—"Omega" (Ramsgate)—"M. N."—"J.W.S."—"Miner" (Deansgate)—"B R."—"Shareholder" (Leeds)—"S. S." (Antrim)—"H. M."—"Shareholder" (Wheal Grenville): The letter can only appear with the writer's name appended—"Shareholder" (Flagstaff): The information is given in this week's Journal.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal* post free, at the price of $8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, &c., Murray-street, New York; or, direct to our Office, 26 Fleet-street, E.C.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, OCTOBER 27, 1877.

COLLIERY EXPLOSIONS.

Two colliery accidents in opposite parts of the kingdom within a fortnight, involving a loss of upwards of 200 lives, are the latest additions to be added to the many that have preceded them from explosions of fire-damp, and to increase the long list of victims who have succumbed in total darkness to the devastating effects of carburetted hydrogen, or fire-damp. The disasters at Glasgow and Wigan were evidently the result of identical causes, and remind one of the terrible explosions which took place at Lund Hill, Hartley, the Oaks, and Swaithe Main, as well as of some of those which occurred at mines in South Wales, and which many practical and able men believe were all preventible. Under such circumstances, and seeing that the cause of all these terrible fatalities in connection with our coal mines were identical in the main, it may well be asked what benefit we have derived from the experience of the past, seeing that on all occasions when there has been a serious loss of life from accidents in collieries we have been favoured with the opinions of the ablest mining engineers of the country as to the best means for preventing such sad calamities. Yet with all the knowledge it might reasonably be supposed we have added to our old stock from the inquiries made as to the origin of explosions in collieries we appear to have fallen back into the old ruts as soon as the grave has swallowed up its hundreds of victims, and the name of the place where some appalling catastrophe has taken place is only remembered by the sorrowing families of those who were killed.

Without alluding particularly to either of the two recent explosions, or in any way endeavouring to anticipate the inquiries respecting them that will be made, we certainly hold that an explosion of fire-damp at a colliery where all the prescribed rules are fully carried out should be all but impossible. This is clear from the wording of the first General Rule of the Act of 1872, which provides that so far as reasonably practicable an "adequate amount of ventilation shall be constantly produced in every mine to dilute and render harmless the noxious gases to such an extent that the working places of the shafts, levels, &c., shall be in a fit state for working and passing therein" If that rule is fully carried out we cannot see how an explosion can take place, but if the ventilation is neglected, or no provision made for any probable change of atmospheric pressure, then an accident, however serious, ought not to create any surprise. But we certainly think that the time has come when explosions ought to be looked upon as preventible, although some of our contemporaries consider that such is not the case, although in expressing so much in that direction they are opposed to the views of scientific and practical men. With respect, however, to the occurrence near Glasgow, the Times makes some very pertinent remarks, which quite coincide with our own opinions. They are to the effect that the explosion belongs to that class of accidents which ought never to have been suffered to occur, and that there is grave doubt whether it ought properly to be set down as an accident at all. But some of the other daily papers fall back upon the favourite theory so often found convenient by non-practical men, which connects a fall of the barometer with the escape of fire-damp in collieries resulting in an almost inevitable explosion. This theory many of our oldest colliery managers have entirely discarded, for they consider that hitherto far too much reliance has been placed on the barometer, and that other means should be looked for to ascertain what are the causes of the violent eruptions of gas in mines that was experienced from time to time. It has also been suggested by some of them that natural currents of electricity may lead to a liberation of those forces which occasionally lead to such serious disasters as those we have had recently to chronicle. With respect to the barometer many of our mining engineers look upon it with supreme indifference, although the adoption of it in coal mines is enjoined by Act of Parliament.

The present manager of the well-known Oaks Colliery, in South Yorkshire, Mr. WILSON, who has had great experience with respect to sudden outbursts of gas and their attendant destructive properties, publicly stated that the barometer, so far as mines were concerned, could well be dispensed with, for he had noticed that when they had a large quantity of gas previous to the barometer falling they had it also previous to its rising. But it is to be feared that men of less ability place far too much reliance on the reading of the barometer to the neglect of more ordinary and practical precautions, for it has been found in some instances that the alteration in the state of the gas has not been indicated by the barometer until eight hours after the occurrence. What is, then, required is that the ventilation of a colliery should be such as not to be dangerously affected either by fluctuations of the barometer or from any other ordinary cause, for in collieries which are known to give off a good deal of gas provision should always be made for overpowering any sudden outburst of it by the amount of air passing through the workings. In such mines, too, it is of the deepest importance that naked lights should not be used, but the best of safety-lamps only in every working place. But there is another source of danger, and which has, probably, led to more disastrous explosions in collieries than any other—and that is blasting with powder. And here we may state that at the Pemberton Colliery, at Wigan, as well as at the one at High Blantyre, the coal was brought down by shot firing, and at the former, at least, were not discharged exclusively during the night. Now, on more than one occasion with respect to the loss of life which has taken place in Lancashire in particular, we have drawn attention to the great danger which must ever prevail in all mines where it was found necessary for the ordinary safety of the men to use safety-lamps, but where, at the same time, powder was used for the purpose of bringing down the coal. Danger accumulates upon danger, and the men, to whom is entrusted almost unlimited quantities of powder, use it unsparingly, without consideration, or examining the different parts of the mine to see whether gas has been gathering in such quantities that it would be ignited by the flame from a shot. When such a system is carried out need anyone be surprised to hear of explosions in which scores and hundreds of lives are sacrificed to the thoughtlessness—or it may be the negligence—of one or two men? But we are told that the men whose duty it is to fire the shots are set apart for that purpose with clear and intelligent instructions to guide them.

But so far as we are aware it is not their duty to examine the working places or any goaves that may be in the vicinity of the place where a shot is about to be fired. If they were to do so we cannot see how an explosion could take place provided all the lamps were in an efficient state. To prevent such catastrophes, however, the only sure and effectual means is to prohibit the use of gunpowder in all mines were safety-lamps are considered essential to the safety of the men in underground workings. In South Yorkshire, since the destructive explosion at Swaithe Main a few years ago, the men at most of the collieries determined not to use powder, but to fell the coal by the far more laborious process of wedging, and the consequence has been that the most fiery mining district in the kingdom, and the one where the loss of life has been the greatest from the blasting of the coal, has enjoyed an immunity from colliery explosions which it never knew before. Let the same course be adopted in Lancashire and other places where the mines are known to have dangerous accumulations of gas oozing from the coal, and such calamities as those which have recently taken place at the Pemberton and Blantyre Collieries would be all but unknown, and until such a course is carried out we shall no doubt frequently have colliery explosions with great loss of life, followed by appeals to the public for the support of the widows and children of the men whose lives in all probability would have been spared had a safer and different but well-known system of getting coal been adopted. We do not say that any persons in particular are to blame for the carrying out of a system so fraught with danger, and it is quite probable that the men would be opposed to any change, seeing that they would have to make some sacrifice of wages in working with the safe wedge instead of the dangerous and deadly powder.

In the coal field of the Clyde Basin, we would just remark, some of the seams are known to give off a good deal of gas, which, of course, will be found in the places where the coal has been worked out, and these excavations at all times should be suspected even where there are no openings between the excavations and the beds. At Blantyre the men it appears were working back getting the pillars and props that had been left when the great bulk of the coal was worked out, so that they would leave large openings behind them, to which the inflammable gas would find its way in considerable quantities. The pillars and posts we are told were brought down by blasting, so that the probability is that from where a shot was fired would be but a short distance from an open space, which might only be a reservoir for gas, and requiring but a spark to ignite it. But as all that relates to the terrible Scotch catastrophe will be made known in due time we refrain from further comment upon it. But we cannot but once more call upon out colliery owners whose seams are known to give off gas in considerable quantities requiring the men to work with safety-lamps, to do all they can to discountenance the use of gunpowder for the sake of their own property as well as of the lives of their workmen. Were they to do so we should have very few accidents to record by explosions, whilst hundreds of men would not be cut off in their prime, for there is no reason why one-third at least of the whole of the miners should be prematurely cut off by the hand of death, or why the wife and family should become dependent on public charity for a bare maintenance. On the other hand, without the use of powder a colliery when properly drained and ventilated may be made not only healthy but more salubrious and agreeable as a place of work than those in which many kinds of labour are carried on above ground. This is what we desire to see effected, so that the men in our mines may be not only healthy but work with the full knowledge that they are doing so with safety, and that explosions of gas are an impossibility.

THE COAL PRODUCTION OF THE WORLD.

The coal production of the globe has enormously extended during the last 30 years. It is only when we bring a severe statistical analysis to bear upon the subject that we can fully appreciate the progress which has been made. The six principal coal producing countries may be said to be Great Britain, Belgium, the United States, France, Prussia, and Austria, the expression Austria embracing, of course, Hungary. These six countries produced in 1845 an aggregate of 49,211,400 tons of coal, this aggregate being made up as follows:—Great Britain, 31,500,000 tons; Belgium, 4,960,077 tons; the United States, 4,400,000 tons; France, 4,141,617 tons; Prussia, 3,500,000 tons; and Austria, 709,706 tons. In 1874 the corresponding aggregate production of the six countries had grown to no less than 253,650,700 tons, Great Britain contributing to this imposing array of figures 125,043,300 tons; Belgium, 14,669,000 tons; the United States, 42,423,900 tons; France, 16,949,000 tons; Prussia, 41,754,600 tons; and Austria, 12,810,900 tons. Great Britain produced nearly one-half, it will be seen, of the whole coal extraction effected by the various nations under review. The immense supremacy of Great Britain over her neighbours in the matter of coal mining is reflected in the fact that in 1874 this country raised 39 tons of coal per head of its population, the corresponding proportion in the case of Belgium being 28 tons, in the case of the United States 10½ tons, in the case of France 4⅔ tons, in the case of Prussia 17 tons, and in the case of Austria 3½ tons. The coal extraction of Great Britain in 1874 was ten times as large as the corresponding production of Belgium, three times as large as that of the United States, three times as large as that of Prussia, eight times as large as that of France, and ten times as large as that of Austria. It should be noticed, however, that the coal production per head of the population effected by Belgium in 1874 approached more nearly to that of the United Kingdom than that of any other country. Even when subjected to this latter test, the coal production of Great Britain still maintains, however, a decided pre-eminence.

The great increase observable during the last three decades in the coal production of the various countries to which we have been directing attention is, of course, the result of a largely increased demand, and this demand has been very materially stimulated by the progress which has been achieved since 1845 in the work of railway construction. In 1845 Great Britain, Belgium, the United States, France, Prussia, and Austria possessed between them 9666½ miles of railway; in 1875 the corresponding total had grown to 128,151 miles, showing an increase of about 1400 per cent. Not only have railways consumed considerable quantities of coal and coke upon their own account, but they have also given an immense impetus to the development of steam-impelled industries; hence the demand for coal has been ever growing, and production, as a natural consequence, has kept pace with it. The greatest advance made by any country in the construction of railways in the course of the last 30 years has been achieved by France. Thus the French railway system, comparing 1875 with 1845, exhibits an advance of 2381 per cent., the corresponding advance in the case of Great Britain having been 558 per cent.; in the case of Belgium, 510 per cent.; in the case of the United States, 1423 per cent.; in the case of Prussia, 1459 per cent.; and in the case of Austria, 1551 per cent. There would appear to be a very close and intimate connection between the development of railways and the development of coal mining; but it is noticeable that while the establishment of railways in France during the last 30 years has expanded at the rate of 2381 per cent. French coal mining has only advanced at the rate of 309 per cent. The French are not over fond of coal working.

COAL AND IRON IN THE UNITED STATES.—The market for rails has become unsettled at Philadelphia, and prices are the lower. The anxiety of some mills to secure business has resulted lower quotations, and for the time being buyers are rather hold off. It is expected, however, that some large contracts will placed before the close of the month, but the continued and st decline in prices seems to have shaken confidence. Quotations main at $44 to $45 per ton currency, but purchases could be m at $2 per ton less for cash. Business in iron rails has been quie Philadelphia, and only small sales have been reported. There been rather an active demand for some descriptions of manufactu iron at Philadelphia, and some further large orders are in prosp Contracts are stated to be pending for several ocean steamers, this report must be received with considerable reserve. The gen demand for bar-iron is unsatisfactory. Scrap-iron has been in ra better demand, and sales have been made at extreme rates. T has been a continued steady demand for all the leading grade steel at Pittsburgh, and most of the mills are running, some to full extent of their productive capacity. There has been an creasing business in scrap-iron at Pittsburgh, with the exceptio old rails, which are extremely dull. The total production of anth cite and bituminous coal in Pennsylvania to Sept. 22 this year 16,264,044 tons, as compared with 14,586,726 tons in the corresp ing period of the year 1876.

THE COLLIERY ACCIDENT IN SCOTLAND.—As regards destruct of life the Upper Blantyre calamity must be assigned a place am the most disastrous colliery accidents that have happened in t country—the total loss being 209. In fatality it does not equal explosion at the Oaks Colliery, near Barnsley, by which some men and boys were killed; but with this exception it is the m destructive on record. The Hartley Colliery accident involve loss of 204 lives; some 200 miners were drowned by the flood of the Shankhouse Pit, in Northumberland, in 1867; over perished in the Lundhill explosion; the explosion at the Fern Colliery, in the Rhondda Valley, was almost as calamitous; w 145 were killed at Risca, and about 140 at the Swaithe Main near Barnsley. As to the cause of the disaster, we are left entir to conjecture, and this being the case no good purpose can be ser by discussing the purely speculative theories which have been up on the subject. Mr. Ralph Moore, the energetic inspector of district, has been most indefatigable in his attention and exertio and the Secretary of State has directed that a public local inqu into the cause of the explosion shall, as soon as practicable, be Mr. Willis, Inspector of Mines for Northumberland and Cumb land, has arrived at Blantyre, to assist Mr. Moore. Mr. Dickins Inspector for South and East Lancashire and Ireland, and Wales, Inspector for South Wales, are on their way. Mr. Dix the principal proprietor of the colliery in which the calam occurred, has headed an appeal to the public for aid to the wid and orphans by a subscription of 1000*l.* We have fully referre the subject in another column of this day's Journal.

NATIONAL ASSOCIATION OF CERTIFICATED COLLIERY MANAG —Another adjourned meeting in connection with the above Asso tion was held on Saturday at the Brunswick Hotel, Manchester, the attendance was again only small, and the proceedings were an informal and private character. It may be stated, however, t a considerable number of letters have been received from colli managers in various parts of the country, expressing their willing to join the Association; and in order to further the organisation the society it is probable that before long meetings will be held a number of central towns to ascertain the feeling of colliery ma gers in the various large mining districts of the country.

THE MINING INSTITUTE OF CORNWALL.—The excellent begin made by this Association was prominently noticed in the *Min Journal* at the time of its inauguration, and it is gratifying to that the energy of the officials continues unabated. It has b arranged that the first exhibition and conversazione shall be held Camborne on Nov. 22 and the following day, and every means being taken to ensure success. The general secretary (Mr. T. Provis) is inviting applications for space from intending exhibi of scientific apparatus, minerals, pictures, &c.; whilst Mr. Will Teague, jun., the secretary of the Mechanical Department, on beh of the Mechanical Committee, is inviting inventors or possesso models of machines applicable to mining purposes to communic with him with a view to their exhibition. From the interest wh has been taken in the Institute by the mine managers of Corn the exhibition would certainly appear well calculated for bring useful novelties under their notice, and it is evident that the e cutive intend giving the gathering a practical business turn, for i mentioned that there will be no charge for space, but a small co mission on all articles sold. That there will be a good attendance scarcely be doubted, as it will afford the visitors an excellent portunity of seeing what is being done, and judging what new ventions are more particularly applicable to the purposes of mines with which they are connected, whilst the certificates merit which are to be awarded will be valuable to the exhibit as showing that the merits of the exhibits have been recognised practical men thoroughly acquainted with their use. It is und stood that the President (Dr. C. Le Neve Foster) and secreta have for some weeks past been preparing an attractive program and that Prof. Bell's large size telephone is to be amongst articles exhibited. The project is one which cannot fail to b general advantage to visitors and exhibitors, and should, therefo be warmly supported.

FIRELESS LOCOMOTIVE FOR TRAMWAYS.—An entirely n kind of locomotive has been for some time past in use in tramways of New Orleans, the invention of Mr. THEODORE SCHE FLER, of Paterson, New Jersey, and the result of a year's practi use has been very satisfactory. As a substitute for fire, hot w is charged from stationary boilers into a large tank carried by engine, and suitably arranged for supplying the motion. The ap ratus consists of a cylindrical tank 31 in. diameter and 9 ft. l with a capacity of about 300 gallons for holding the hot wa The driving wheels are 30 in. in diameter, and the leading wh 20 in., with a wheel base of 5 ft. 7 in. The cylinders are 4½ by 1 The valve gear consists of a main valve which works full stroke all times, and controls the exhaust with a steam valve on t worked by a link which governs the admission. Both valves however, worked by the same link, and the valve gear has b patented by Mr. Scheffler. The total weight of the engine with tank full of water is under 4 tons. At the commencement of journey the tanks are charged with water from a stationary boi which is heated up to a temperature due to a pressure of 220 per square inch. A six-mile run with an ordinary loaded str car reduces the pressure to 40 lbs. per square inch, and the val gear gives quite automatically a variable cut off to suit very wide range of pressure. One great difficulty which is countered was in charging the boilers, it being no easy matter to tain water all heated uniformly to a temperature of 390°, and it usually found that in running from the stationary boilers to place where the engine was attached to the car the pressure wo fall from 220 to 190 lbs., but the engine would even then run a tance of 3½ miles, and have 100 lbs. pressure in the tank at the of that distance. With 80 lbs. pressure the engine would pull upon a fairly level tramway while the steam was cut off at 2 inch or one-fifth of the stroke. Further details are necessary to any accurate opinion being formed as to the probability of the vention proving permanently useful, but there is no doubt that possesses the necessary elements of success.

GENERATING HEAT.—The invention of Mr. JAMES YOUNG, Kelly, Renfrewshire, consists in blowing steam through one or tuyeres arranged in the lower part of furnaces or fire-places, so the inducing action of the steam draws in with it atmospheric

...ably the steam and air become mixed, and in the mixed state ...dispersed amongst the ignited fuel and burned. The invention ...especially applicable to furnaces for smelting ores.

REPORT FROM CORNWALL.

Oct. 25.—There is no diminution in the brightness of the prospects ...far as our tin mines are concerned, and the advance on the official ...standard still continues to be maintained. Naturally, however, there ...not quite so much activity in the share market. It is the custom ...Cornwall to do matters rather with a rush, and there is a decided ...spasmodicness in the habits of the bulk of mine adventurers, if not ...many of mine managers. "One and All" thoroughly applies to them. ...They will in a body, or something very much like it, if times look ...rather bad, and they buy in a body when prospects brighten, and ...rather bad, and they buy in a body when prospects brighten, and ...either case without much consideration. "Out 'venturers" are ...probably the worst for this, but there would be very little stability ...in Cornish mining enterprise if some shareholders—luckily they are ...generally among the most deeply interested—did not act in a dif...ferent spirit. It is those who stick to their shares who are the ...mainstay of Cornish mining, and who deserve to reap its rewards. ...Into the chief profit has been reaped by speculators who were ...wise enough to anticipate the recent turn in the tide, and have pro...fited handsomely accordingly.

It has been remarked, apparently in reference to an observation ...on the need of greater attention being paid to the management of ...pumping engines, "that a University education is not necessary to ...enable a man to shovel coals into the boiler of a Cornish engine." ...Probably for boiler fire-place is intended, but we pass that by. The ...point in question is not whether a University education is needed, ...but whether any education at all is required. Our engine-houses ...are very commonly—in the modest spirit we admit—been made ...a refuge of the destitute, the lame, the halt, and we might almost ...say of the blind. If the duties of our enginemen consist merely in ...shovelling coals into a boiler" probably they are very well fitted ...to discharge them, and their decrepitude may be a cause of eco...nomy by preventing a too active performance of that work. But ...there is a good deal more involved in the position of an engineman ...than this. Even if we waive the point that the man who has to ...attend on machinery should know something about it, the fact re...mains that stoking is not a mere rule of thumb, and that it is not ...well done in the manner a Devonshire man is said to load his dung...hill by shovelling the stuff in as quick as he can, and till it can hold ...no more. In order that due economy may be exercised the fire re...quires constant care and a continual exercise of judgment, that the ...right may be supplied in the right quantities and at the right times. ...We are quite within the mark when we say that three times the ...quantity of work may be got out of the same amount of coal used ...to the best advantage than when shovelled in with, to use the ...common phrase, a "what care I?" Again and again the importance ...of such suggestions as these has been denied, but sooner or later ...they have to be attended to. We admit now what we stated before, ...that the same duty cannot be got out of old engines as out of new ...ones, but that is no argument for not making the best of them. ...But how is that done, or rather not done? It is not only in the ...matter of enginemen that we are behind hand, but a few years since ...the coal economisers, which answer admirably, were brought ...immediately under the notice of our mine managers. They may ...have looked at them, but we do not believe there is one to be found ...in any mine in the county.

There appear to be fair prospects that the exhibition of matters ...connected with mining, to be held under the auspices of the Mining ...Institute, will be a success, certainly in the utilitarian point of view, ...which is the right view here, at any rate. There is plenty of room ...for the work which the Institute proposes to itself beyond the sphere ...within which the Polytechnic Society has so long and so usefully been ...wearing, but it must not be thought that to get up such an exhi...bition as is now proposed will be by any means an easy task; still ...less easy to make it an annual affair.

We are glad to find that Messrs Stocker are persevering in their ...attempts to introduce the hydraulic system as practised for gold ...and tin mining in California, &c., into the clay workings of Central ...Cornwall. Sooner or later this must revolutionise the method of ...working the clay stopes, economising labour, and relieving the men ...of the most disagreeable and arduous portion of their duties.

By the death of Mr. John Allen, of Stowford, Ivybridge, near ...Plymouth, Cornwall has lost one of the most deeply interested in ...and its chief special industries. He was widely known as the ...head of the firm of Messrs. Allen and Sons, the proprietors of large ...paper mills at Ivybridge; but he was also the largest shareholder in ...the famous Old Delabole Slate Quarries, the present position of ...which great concern is due in no slight degree to his tact and his ...business energy. He died at a good old age, deeply lamented. ...One of his most recent acts was, in connection with his sons, to ...build a Wesleyan chapel at Ivybridge at a cost of 6000*l.*

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Oct. 25.—Colliery owners are still complaining of a lack of busi...ness, and the slackness is chiefly felt at those collieries where furnace ...coal only is mined. Most is being done at the pits where house-...coal and manufacturing seams are worked combinedly. The Can...nock Chase and Derbyshire coalowners are sending increased quan...tities of fuel into districts formerly supplied by pit proprietors ...in the iron districts. The pig-iron trade is without revival, and ...sales are difficult to secure. All mine qualities are quoted at 4*l.* ...Forge mills and forges are doing no less than they recently were, still ...there is no marked increase in the orders: 8*l.* 10*s.* is the the crucial ...quotation.

It having been made known that several colliery proprietors who ...had signed the Bilston petition for exemption from the operations ...of the Mines Drainage Act have now withdrawn their names, the ...gentlemen through whose hands the document passed publicly ...announce that "no such withdrawals can possibly have any legal ...operation. By the presentation of the memorial the powers of the ...Commissioners with respect to underground drainage within the ...district in question *ipso facto* ceased; and such powers can only be ...revived by a new memorial signed by a like majority, and pray...ing for the re-admission of the exempted district." It is needless ...to say that the Commissioners do not take this view of the matter.

Coal and iron properties have been in but slow movement on ...the Exchanges since my last. The original shares of the Sandwell ...Park Company have sold at 8¾ premium, and the new shares of the ...same concern, upon which 3*l.* is paid, at 7¾ prem. John Bagnall ...& Son's property has changed hands at 3*l.* 7*s.* 6*d.* The shares of ...the Patent Nut and Bolt Company have fetched 7 prem. Buyers of ...the Cannock and Huntington Colliery shares are in the market at ...£6, but holders decline to sell at over 5 dis. Sellers in the Ivy ...House Colliery quote 7 dis., but at the figure no buyers came for...ward. The Spon Lane Colliery Company's shares might be sold at ...£5, but there are no holders at this price in the market. Buyers ...are trying to secure the Pelsall Coal and Iron property at 12 dis., ...but sellers hang back.

At a meeting of shareholders in Joseph Wright and Co. (Limited) ...a dividend at the rate of 8 per cent. per annum was declared for the ...half-year ending June 30, carrying forward 1298*l.* 4*s.* 7*d.* to the credit ...of present account. The Parkgate Wagon Company and the Northfield ...Iron Company have suspended payments. The Parkgate Wagon ...Company, which was started five years ago, had a capital of 50,000*l.* ...For the first two years it paid a dividend of 20 per cent. and then ...10 per cent., but a loss of 8000*l.* was sustained last year, and the ...shareholders have resolved to wind-up the concern. The Northfield ...Iron Company, with a capital of 50,000*l.*, also sustained heavy losses ...last year, and on Monday the works for the manufacture of tyres ...and axles were closed.

It has been resolved to liquidate by arrangement the estate of ...Messrs. W. Stonehewer, iron merchants, of Horsely Heath, Tipton, ...late of the County Ironworks, West Bromwich, who have had ...to meet their creditors, with liabilities amounting to 15,789*l.*, and ...assets 6311*l.* The debtors commenced business in 1869, as iron ma...nufacturers, and between that period and 1876 (when they ceased ...manufacturing) they lost 10,696*l.*, and in addition to this they have ...invested and lost 5000*l.* in a South Wales Colliery.

Mr. Noah Hingley, of Dudley, a well known coal and ironmaster in South Staffordshire, died at his residence on Sunday at the ripe age of 82. The deceased gentlemen was a county and borough magistrate, and an alderman of the borough, and was widely and deservedly esteemed.

The absorbing question in North Staffordshire is that of wages. A strike has been virtually commenced by the members of the Amalgamated Society of Engineers having waited on Lord Granville's agent to receive the arrears of pay which are kept in hand: 5000 miners are now idle, and it is feared that the strike will spread. Meanwhile there is no improvement either in the coal or iron trades.

At the conclusion of the coroner's enquiry into the boiler explosion which occurred last June at the Ravensdale Ironworks, Tunstall, the jury returned a verdict of "Accidental Death," coupling with it a recommendation that for the future new boilers and boilers after being repaired should be tested by hydraulic pressure; that no boiler should be worked beyond one-sixth of its bursting strain; and that boilers should always be under the control of competent persons, and should be properly inspected at every change of turn.

TRADE OF THE TYNE AND WEAR.

Oct. 24.—The demand for best house and gas coal continues to improve a little, and prices for these coals are firmer, but for all other kinds of coal and for coke the demand is both unsatisfactory and unremunerative. At the Ryhope Colliery the pits have been got fully to work, and upwards of 2000 tons of coal were raised per day last week. At Silksworth the output is rapidly increasing, and 1200 tons of coal per day are now raised. When this place is fully developed it is expected that 3000 tons per day will be raised from the Hutten and Maudlin seams. At Whitburn new winning the process of sinking by the Belgian Chaudron, or boring system, is now in full progress, and we give below some details, showing what has been accomplished so far. In Northumberland, collieries are still laid off daily. At Horsley Colliery, west of Newcastle, the hands, 120 in number, have got notice. The men at New Delaval Colliery have also got notice. One of the Cramlington pits at Shank House has also to be stopped. Some of the works, however, as at Cambois and Coupen, have been doing better. The men have agreed to adopt the system of casting the small coal and shale got in holing back, thus returning to the old system, which was only discarded during the coal famine in 1873, and which has wrought such mischief. This is an important step, and it will lead to considerable benefit to all parties, as the owners will thus be relieved of the cost of drawing these waste coals from the workings to bank, and the cost of clearing the coals at surface for the market will also be considerably reduced. The men, however, refuse to accept the seven-hours work underground, which is much to be regretted, as has been pointed out in this letter. The time mentioned is quite necessary to enable a man to get his place properly holed, and the coal taken down. These short hours are another result of the coal famine alluded to above, and the habit will be difficult to break down now that it has been formed.

Whitburn New Boring.—The process of boring the shafts at Whitburn by the Caudron process is now in progress. A borer 5 ft. in diameter is at work in the centre of the main shaft; when this borer is worked continuously night and day the rate of progress is 20 ft. per week, and 50 ft. has now been bored and completed 5 ft. in width; when this borer is put down to the bottom of the water-bearing strata 300 ft. the larger borer will be put to work, which will be 17 ft. in diameter, and when this is completed the rings of metal which are to form the tubbing will be lowered securely bolted together. Those rings are cast complete the full size of the shaft, and in this case they are 14 ft. diameter inside and 5 ft. in depth, each piece weighing about 7 tons. The process is very interesting, both in the sinking process and the process of bringing up the debris produced. We have before described the process of sinking. The debris is brought up, and the shaft cleansed in this way. An iron tank is lowered down, which is simply a "wummel," so well known to borers, on a large scale. This tank is fitted with valves opening upwards at the bottom of the tank, and, of course, as it is worked into the bottom of the shaft the debris passes into it, and when it is drawn up those valves shut, and thus the shaft is quickly cleansed, from 1 to 2 tons of rubbish being brought up at one time. Before the iron tubbing is lowered when the shaft is finished below the water-bearing strata a water-tight packing of a peculiar kind is fitted on the bottom flange, and when this lowered and made secure it only remains to pump the water out of the space inside the tubbing. The shaft can then be sunk in the ordinary manner through the shales, which are generally free from water. When it is considered that the limestone at Whitburn is of a very hard nature the progress made must be considered satisfactory, and the success of the adventure may also be fairly calculated upon.

NORTH OF ENGLAND INSTITUTE OF ENGINEERS.

The North of England Institute of Mining and Mechanical Engineers had an excursion last week to Stonecroft and Greyside, and the Settlingstone Lead Mines, near Newbrough, in Northumberland.

The Prudham Stone.—The party (about 150) first visited the works, adjoining the railway station, of Mr. W. Benson, the proprietor of the celebrated freestone and limestone quarries in that locality. The first thing to attract the attention of the visitors was a new stone-dressing machine—Hunter's patent. It was put in operation on the arrival of the visitors, and a stone about 5 ft. 9 in. in length, and 18 in. broad, was dressed in about 4½ minutes. The machine is considered to do the work of from 15 to 20 men. The full capacity of the machine, of course, can only be obtained when working stones of the full width of the cutters, which go as rapidly over a stone of the full width as over one of less proportions. The machine is a great improvement upon those of the same kind formerly used. In the older machines the cut was straight upon the face of the stone, and consequently the wear and tear of the knives was very great. In the new arrangement the cutters revolve upon an axle, so that the cut is given in the shape of a curve or scoop, and consequently the edge of the cutter is much less damaged than in the former case. The machine is capable of dressing 300 superficial feet per day. In the same works are machines for similarly saving manual labour in the case of timber sawing and planing. The instruments are both manufactured by Messrs. Ransome and Co., of Chelsea, London. One is a band saw which cuts out corves, cart-wheel tyres, break wheels, and similar articles, and does the work of seven or eight men; the other is a boring, sawing, and planing machine. It is used for riveting door frames as well as cutting, and does an immense quantity of work. An instrument by the same makers, and also in this workshop, is used principally for guillotining and sharpening saws. The party also visited Mr. Benson's selenitic works at the same place. They comprise a pair of edge stones and 4 ft. 6 in. mill stones. Here, also, are nine lime kilns, likewise the property of Mr. Benson, capable of turning out 150 tons of lime per day; and adjoining is a colliery, belonging to the same proprietor, employing between 50 and 60 men and boys. The coal is found in the limestone measure, and from the circumstance of its lying immediately underneath it is not unfrequently called the Little Limestone coal. The quarries of limestone and freestone are situated about half a mile to the north of the railway station. The freestone is the well-known Prudham stone, so largely used for building purposes, and the only stone of the kind to be found in the district. At this place and in the immediate neighbourhood alone is found the stratum of this quality. Large quantities are sent into Lancashire, Westmoreland, and Scotland for the construction of buildings of the better class. Some of the principal buildings in Newcastle—the new Post Office, the Mining Institute, the new club house, and the central station are built of it. The limestone which Mr. Benson is working lies immediately over this, and is the well-known limestone prevailing over the whole of the mining district of the North of England, and which in the Alston Moor and adjacent lead mining territories has been and is still so productive of lead ore. In the district of Newbrough, Fourstones, and Prudham it is denuded, and the lead ore is raised from beds immediately underneath, down to the whin sill, and also upon the whin sill. The limestone quarry gives employment to over 50 men, and the freestone quarry to over 40, and altogether Mr. Benson's works employ from 180 to 200 hands.

The Stonecroft Lead Mines.—Another place of interest visited was the Stonecroft Lead Mines, the property of the Greyside Mining Company, which was formed in 1851 by Mr. Benson. The mines are situated about 2½ miles to the west of the Fourstones Railway station, and are being actively and successfully worked. Here, and also at Settlingstone Mines, situated in the immediate neighbourhood, guides were in attendance to conduct the visitors over the surface works and also through the workings of the mine. In the Stonecroft Mine about 130 men are employed, and at the surface about 70. The visitors were conducted through the mine by Mr. Ware, the courteous and able manager of the mine, and Mr. Wm. Lee, the principal foreman of the underground works. We found the matrix composed of lead ore, carbonate of iron, sulphate of barytes, iron pyrites, blende, carbonate of barytes, and carbonate of lime; and varies in width from 6 in. up to 15 or 16 ft. There is a main east and west vein, and also a south vein, which have been very productive for the last 23 or 24 years, and are still extremely productive, the most productive ground being found in the whin sill. The ore when brought to the surface is taken direct to a hopper for grating, after which it passes to a Blake's stone-breaker, and thence to the crusher; after this it is taken direct to the classifier for jigging, the slimes passing at a lower level. The production of marketable lead ore is about 250 tons per month. At the surface is a pumping-engine, 70 in. cylinder, 22 ft. beam, 10 ft. equal stroke; 23 in. plunger; 53 fm. lift; 3½ strokes per minute; 558 gallons per minute; 177,444 gallons 1 ft. high per minute; 13 in. bucket, 10 fms. lift. The engines are of 56 horse-power and consume 4 to 5 lbs. per horse-power per hour. They are capable of working up to 250 horse-power. The depth of the winding shaft from the surface is 70 fms.; levels are driven off at 15, 30, 40, and 50 fathoms. Most of the ore-dressing machines are driven by steam-power; and water-power is also used. The works above ground were pointed out by Mr. Henry Milburn and Mr. William Nixon, the washing masters.

The Settlingstones Mine.—This lead mine is also in the immediate vicinity, and was likewise visited. The party were received and conducted over the mine by Messrs. Alfred and Walter Hall, the lessees of the mine, of which his Grace the Duke of Northumberland is lord of the manor. In this neighbourhood lead ore has been raised for many years. In the works by the side of the burn at Settlingstones the ore is visible, and bears evident traces of having been worked by the Romans. Mr. John Hall, M.D., commenced working the mine in 1790, and continued to do so for some years, after which it was abandoned, but was re-opened in 1833 by the Messrs. A. and W. Hall, who have worked it continuously ever since. The principal pumping engine here is a Cornish 60-in. cylinder, working plungers of 18 in. diameter, and with 9-ft. stroke. There is a 25-horse power condensing-engine. The winding-engine is 16-horse power condensing. One of the shafts is 100, another 75, and another 60 fms. deep. The principal winding shaft is Mr. Winter's, where the pyrites are drawn from the workings of from 60, 70, and 80 fms. lift. It is chiefly carbonate of baryta. Between 2000 and 3000 tons of carbonate are annually produced, and are shipped principally to France and Germany. A little goes to America, and some is used in England for glassmaking and other industrial arts. The chief production of baryta is found in two or three mines in the North of England; and here is one of the principal sources of supply. Almost the entire product of the British Islands is in fact within a few miles of this place. The mine is also worked for lead ore. The run of the known vein through the royalty is about a mile and a quarter. The mine is situated in a very picturesque neighbourhood, close to the Roman Wall, and in the neighbourhood of that portion of the wall where recently was the great discovery of Roman coins in the well consecrated to the goddess Coventina, at the Roman camp at Procolitia, on the estate of Mr. John Clayton. A large party of the members visited the shrine, and the whole company afterwards assembled in the village of Newbrough, where they had luncheon provided by Mr. Surtees, innkeeper. Mr. Benson occupied the chair, and various toasts having been proposed, the party proceeded to Fourstones Station, from thence a special train brought them back to Newcastle. The weather throughout the day was exceedingly fine, and the excursion was greatly enjoyed.

REPORT FROM THE FOREST OF DEAN.

Oct. 25.—We have had occasion repeatedly when writing our reports for the Journal to direct attention to the unfortunate bungling affecting the construction of the Whimsey and Mitcheldean Railway line, which although less than five miles in length, and has been nearly as many years since it was begun, is still in an unfinished state. The company has been singularly unfortunate, as the first contractor became bankrupt, and left the works, and under the subsequent arrangements two or three stoppages have occurred, and, in fact, hitches of one kind or another have been rather frequent during its whole history. The connection of its late engineer and contractor with the line was considered a great misfortune, as many engineers of fair skill and energy would have constructed the whole length of line easily in less than two years, and it only includes one tunnel of any length (about half a mile more or less), and a small one perhaps a hundred yards long, and the other cuttings only answer to a flea bite in such things, and yet even now the short line is unfinished, and likely to be so for some time to come. The tunnel has some 60 yards or more now to cut through, excepting a mere heading, which has long been driven its whole length. It is only arched in sections, leaving wide gaps without walling, rock sides in some distances, and mere marl or shale in other places, which it is believed no Government Inspector is ever likely to pass as it is. We visited it only a few days ago, and passed along its whole length as far as we could without going upon all fours (hands and feet), *i.e.*, the whole distance, except the bit of heading. To view it some distance in from the front a person of common sense would infer that the managing contractor had taken leave of his senses, as he had the stupidity to arch over without first cutting the proper depth, so that before the permanent rails can be laid from 2 to 3 feet (and even more) will have to be cut out from the floor of the tunnel below the side walling, which may be expected in some places to render the arching very insecure. Thanks be the daudling and muddling contractor is severed from the works, although as an enticer to further connection he stated to the directors, it is said, that he could finish it in about three months for—we were informed, though we cannot vouch for it—3000*l.* We gravely doubt whether it can be done for any such sum, and at the rate of his former progress it would take the said contractor nine months to finish.

Our opinion is that it will take from four to seven months to complete the line, according to the kind of men employed to do the work. The former contractor was very capricious—he would suddenly put on a number of men, and as abruptly discharge them, without any appareat reason—outsiders supposing that one reason in not keeping a full complement was to make a good job last a good while; but the real reasons for his actions, we may conclude, were known to himself. When the directors again set the work in motion we hope some competent person will be employed.

It has been industriously circulated that whenever it is opened it will only be for mineral traffic, though we would charitably hope that the Great Western Company will be wiser than that, notwithstanding that tempting offers have been made to them if they will engage selfishly to exclude passenger traffic. We have it on what seems reliable authority that a rich coal proprietor has offered to find all the necessary money to complete the line on the sole condition of the Great Western Railway Company entering into the selfish and unphilanthropic stipulation to exclude passenger traffic. We understand that the line has already cost some 12,000*l.* more than the original estimate, and is likely to cost several thousands more before it is finished. If the Great Western Company wish to prevent an independent line by others being constructed they had better pay no heed to the selfish offer alluded to. There is a new scheme of railway proposed from Abergavenny to Ross, with a branch junction to Lydbrook to meet the Severn and Wye; but, although desirable, we fear it is in wrong hands to meet with success. But when the plans, &c., are deposited we shall know more about it, and be better able to judge of its prospects.

Some time ago we referred to a dispute respecting the boundary line of a coal gale, affecting the rights of the owners of the Stapledge and Mid-Church Collieries, the one belonging to Messrs. Gollop and Ridler, or held by them of Mr. Warman, and the other to Mr. Crook and another. We mentioned that the Gaveller had directed a heading to be cut to ascertain the facts of the case. But it is held by Mr. Crook and his partners that the terms of the award exclude the right claimed by Messrs Ridler, and it is a significant circumstance that if the coal does belong to them that with such assumed rights they should stop their works. Attempts have been made to clear up the points by Mr. Crook taking witnesses to Coleford to the Gaveller's office, men who knew the works long ago, and some of whom are said to have been engaged in a former dispute respecting the same piece of coal, but for some reason or other the other side failed to render the necessary presence and attention to decide. It seems that nearly 30 years ago different parties to the present owners occupied the collieries, and that 25 years ago there was an action tried at Gloucester respecting this very piece of coal—Roberts *v.* Corbet—and that the verdict was for the defendant, the side now represented by Mr. Crook and his partner. We have read the report of trial as published in a Gloucester paper at the time. Some, however, assert that a portion of the coal seams referred to remains unawarded to the present date, but that an application has been entered in the Gale Book by a free miner for the coal in question, so that it is likely to have a future history as well as a past one. It is desirable to avoid expensive law suits, but when opposite parties are strongly persuaded of opposing rights in the same property, it seems scarcely possible to prevent the lawyers getting some good pickings out of the litigants. We hear little of the experiment going on at Speculation and Trafalgar Collieries, but that little is of a conflicting character, but in due time we hope that a decision will be arrived at consistent with the real facts of the case, and that the source of inflow of water to Trafalgar Colliery will be clearly ascertained and decided. We understood that Mr. Barrett is engaged repairing boilers, and otherwise making preparations for re-starting Waterloo, or, as it is called by others, Prince Arthur Colliery, near Lydbrook, but that instead of working it himself he intends getting up a company to take it in hand; but whenever its pumps are set a going it will play an important part as to the water question. Some fresh operations are reported in West Dean, what is called Teagne's Pit at How Beach being again in force, sending house coal to bank. Whether the death of Mr. G. Russell will affect any of the works with which he has been connected does not as yet appear. He was much regarded as a genial kind hearted man, and will be much missed by his friends and acquaintances. The iron mines of Buck Staft, St. Annolls, Westbury Brook, &c., on the eastern side are in operation, notwithstanding that the iron trade is still low. Notices have been given at the forge for termination of present contracts, which is understood to mean further adjustment of wages; on the whole the improvements formerly reported by us we con-

sidered to be quite maintained, although the coal trade is by no means what we should like to see it, nor is there the demand for labour which implies comfort in the cottages of working men; but the labour market is worse on the western side of the Forest than on the eastern side, but nowhere throughout the district is there a good degree of prosperity; still, with the approach of winter cold, we would fain hope for a marked improvement in the demand for household coals, and it is some encouragement to learn that there is improvement in the demand for steam coal. Prices remain in *statu quo*, but wages in some instances are reported as tending downward.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Oct. 25.—As time rolls on, and winter approaches, the condition of the Iron Trade by no means improves, nor do the staple trades generally exhibit any sign of returning animation. Rails are being made for India, and this fact has slightly altered things for the better at some of the establishments, but it is feared the winter will be an exceptionally dull time. About the last shipment for the season has been made to the northern ports. Clearances are also being made with regularity to India. As to iron rails, the enquiry continues slack, and prices unremunerative; and, as has been the case of late, the make of bars has been very small. Stocks of pig-iron diminish very slowly. The steel works are employed fairly well. The quarterly meeting of Tin-Plate manufacturers has been held at Swansea. The news to report was not of a very cheering nature, and the attendance was meagre, the members not seeming to take much interest in the Association. The restriction of make will at any rate continue to the end of the year. The news as to the Coal Trade is not at all satisfactory. The foreign demand is not so well kept up, and considering that prices are so low the position of colliery proprietors, and others interested pecuniarily in the trade, must be by no means a pleasant one. The home demand for steam coals is fairly brisk, and the same remark applies to house qualities. From some of the collieries it is reported that full employment is given, but in too many cases the men are only on half-time, taking the average.

Judge Falconer has been speaking at the Merthyr County Court on the last great strike and lock-out. Some defendants pleaded poverty on this account, and his Honour observed that the great works of the country had been then shut up by the talkative delegates who went about. They sent the trade out of the country. . . . If the men got their Union President and strikes again they would only be beating down that which had already been almost destroyed. The colliers at Forchaman Colliery, Aberaman, object to working three in a stall, except under certain circumstances, and then to be paid extra. The matter has been considered at a delegate meeting, and adjourned.

A "Mining Engineer" writes to a local paper suggesting that the funds not yet distributed at Porth in connection with the Tynwydd disaster be sent to the widows and orphans of those who have recently lost their lives by the great Scotch calamity. The suggestion is one worthy of consideration.

Sir George Elliot, Bart., M.P., has, it is stated, during the week had an interview with Lord Beaconsfield, mainly on the prevention of accidents in coal mines.

The Noxious Vapours Commission has been sitting at Swansea to receive evidence as to the effects on vegeration and health of copper smoke and other deleterious vapours. Lord Aberdare presided, and no decision was, of course, arrived at at the meeting.

Cardiff is to have more dock accommodation. The Glamorganshire Canal Navigation Company have come to the rescue. They have resolved to carry out the work in connection with their floating dock. A new tidal basin of 2½ acres, and a dock of about 16 acres are projected. The works will be connected with both the Great Western and the Taff Vale Railways. The company intend to shortly ask Parliament for power to raise the necessary capital—some 240,000*l.*

The Cwm-Avon Ironworks, lately the property of the Governor and Company of Copper Miners in England, were sold it will be remembered a few months ago to Mr. Jas. Shaw and some associates for 55,000*l.* It was well known that these works had cost over a million and a quarter of money, but the shareholders after long consultation discouraged by bad management resolved to quit them at any sacrifice. Since the purchase was made a sale has been effected of a small portion of the property—the tin-plate works, with their stocks, for 51,000*l.*, being nearly the whole of the cost price. But besides about 15,000*l.* of copper furnace bottoms have been realised, another 15,000*l.* of pig-iron sold, 12,500*l.* of scrap iron shipped, and private house property to the amount of 10,000*l.* disposed of, these all being included in the purchase. The blast-furnace property is about to be sold for 25,000*l.*, and the remaining house property brings in an annual income of 5500*l.* a year. The extensive collieries, wharf property, foundries, engineering and fitting shops, brickworks, and chemical and acid works remain untouched. The actual working stock included in the sale was the astounding item of 62,000*l.* It is seldom that such a bargain is made even by the most disheartened shareholders.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Oct. 25.—With a goodly number of lead mines open the production of ore is particularly small, and some of those that but a few years since were turning out large quantities are now doing little or nothing. The mill dam at Great Hucklow, belonging to the Mill Dam Mining and Smelting Company, was the best last year, Wakebridge and Eyam being the next, but the produce of the three was not equal to what was only a few years since raised at one mine. Even the mines belonging to the Wass family, that formerly did so remarkably well, have been particularly quiet for a considerable time past. In ironstone there does not appear to be so much raised at several places as there was formerly, so that a large percentage of what is consumed is brought from Northamptonshire. Pig-iron has not in any way fallen off in production, but the demand is still rather moderate, yet a good deal is consumed at the works where it is made. Manufactured iron is in rather moderate request, but the foundries continue to be tolerably well off. House coal has rather improved in demand of late, more especially for the London market, so that Clay Cross and several other collieries are now sending a larger tonnage there than they have done for some time past. But this has caused very little alteration in the prices, although some of the London merchants have been charging their customers a great deal more than is warranted by what they have to pay at the pits, so that their profits of late must have been very good. The wonder is that our colliery owners give these gentlemen the opportunity of making so much money as they do, seeing how easy it would be for many of them to sell direct to the consumer, and to the advantage of both. The laying of the foundation stone of the Stephenson Memorial Hall by the Marquis of Hartington at Chesterfield on the 17th inst. was a marked success in every way. It is expected that the erection of the building will be proceeded with energetically, so that the Mining and Mechanical Engineers' Association of Derbyshire will be installed in their new home with as little delay as possible.

Complaints are still rife in Sheffield as to the marked quietness which pervades several of the leading branches of trade, and the slight prospect there is of any improvement taking place in them. The Bessemer railway mills continue their onward course, and what with the Indian and other orders they will be kept going for some months to come at the same rate. Tyres and axles are also in fair request, but there does not appear to be so much doing in ordinary iron rails and railway material. Crucible steel is still quiet, the demand for cutlery and other purposes being still but moderate. Notwithstanding the war very little is being done in rifle barrels, heavy ordnance, or general war material. The armour-plate mills, however, have been doing rather better for our own and, we believe, the Austrian Government, but even in this branch there is room for improvement. Business with the United States is looking better, more particularly with respect to cutlery, whilst some orders are also being placed on Australian account. Ship-plates are rather quieter, whilst a very moderate business is being done in files, saws, and similar goods.

Between Sheffield and Rotherham some of the works have been doing very well; this is more especially the case at Messrs. Steele, Tozer, and Hampton's, who are very busy on the Government order for Bessemer rails for India, and have recently increased their productive power, so as to be better able to meet the demand made upon their resources. Engineers are kept moderately well going, and so are makers of railway mineral wagons. In South Yorkshire the house coal trade has kept up very well, and a full average tonnage has been passing over the Great Northern to the metropolis, but more could be sent were it required. The active season for the shipment of steam coal may now be said to have closed, after a very fair time, so far as the tonnage exported to the North of Europe is concerned. Our colliery owners have been able to hold their own in the North Sea against the efforts of their German competitors, who have been pushing their coal in several directions. Steam coal is not in such demand as it has been, but a fair tonnage of gas nuts is being sent away. The proposal of the Midland and Great Western Railway Companies to purchase or lease the Manchester, Sheffield, and Lincolnshire was rather a surprise, but it has evidently been brought about by the notice given by the Great Eastern for a line to join their main system to the Lancashire and Yorkshire at Askerne, and the Manchester and Sheffield at Lincoln. This would give the Great Eastern access to the West Riding coal field, and the colliery owners another route to the Metropolis, which they have been long looking forward to. What the result will be it is not easy to tell just now, but it is to be feared that the Midland and Great Northern acting together will be too much for the Great Eastern.

REPORT FROM THE NORTH OF ENGLAND.

Oct 25.—There has again been a week of comparative inaction in all matters affecting the position and prospects of the Iron Trade. The current of business on Tuesday at the Middlesborough iron market was the reverse of satisfactory. Prices, indeed, were lower than they have been for many weeks, perhaps for years, seeing that No. 3 touched 40s., less 1 per cent., and transactions reported at 39s. 6d., cash on delivery. I did not hear of any contracts made at lower rates, but I am satisfied from conversations with both buyers and sellers that it is quite easy to place orders at lower rates, some makers finding an increasing difficulty in getting a market for their stuff. There is now about 105 furnaces in blast out of 160 built, and this proportion is making at the rate of fully 5000 tons per week more than a legitimate market can be found for. On the whole, it must be admitted that the outlook is even less satisfactory than it was. There is a constant liability on the part of merchants to "bear" the market, and the attitude of sellers is such that they cannot resist these movements by any successful counteraction. There is now a good deal of iron being shipped to Scotland, and the various countries in the North of Europe are also taking comparatively large quantities, but for local consumption the demand is of the most meagre description.

The finished Iron Trade scarcely calls for any remark. Rail makers are doing literally nothing, except Hopkins, Gilkes, and Company, and the Darlington Iron Company, and the disrepute into which this class of property has fallen is indicated by the fact that Mr. Willman, who offered the North Yorkshire Ironworks for sale on Tuesday, failed to elicit a single bid, although this is entirely an iron-rail making concern. The probability is that the works to be offered for sale next week will share the same fate, the investing public having in the meantime a whole-some dread of this kind of property. Plates are in pretty steady demand, but prices are without change.

The coal and ironstone mining trades are slacker. In the Cleveland district proper some half-a-dozen of the principal mines continue to be inoperative. Walker's drilling machine is now being tested by Bell Brothers (Limited) at another of their mines. The coke trade is fairly busy, but not so much so as it was a few weeks ago. More ovens have been put out within the past few days. There are not now more than 4000 ovens in use out of 17,500 in the county. The price of coke is decidedly weaker, best sorts being only quoted at about 11s. 6d. at the ovens, while inferior kinds may be bought as low as 9s. 6d.

FURNACES WITH UNDERGROUND SHAFTS.

With a view to construct furnaces with a chamber or chambers formed below the fire-grate to a depth of 30 ft. more or less, below the level of the ground to serve as an air shaft by which the fire is fed with air and the supply of air and the heat regulated and maintained especially with furnaces employed for treating metals and other minerals, also for annealing purposes, and for burning, heating, and drying plastic bodies, and for operating upon materials generally by heat, Mr. J. Toussaint, of Birmingham, has patented an invention by which the fire and heat may be caused to act direct upon or against crucibles and other containers arranged above, or in flues or passages leading to the outlet, as desired, but it is particularly applicable when crucibles are employed suspended or supported by oblique or angled projections below and at the side, or by a foot at the bottom, said crucible being formed with a rounded bottom, and with a spout or nozzle from its lower part to the outside of the brickwork or structure to facilitate the molten metal being drawn off.

One method of forming the upper part of the furnace structure above the fire-grate (and which is important as part of his invention), the part below the grate being in all cases by his invention of great depth, whether the structure be vertical or oblique, is this—The furnace may be square, round, or of six or eight sides, or oval; under the fire-grate bars it is in the form of a chimney of a depth from 3 ft. to 30 ft. or more. It may have parallel sides from the bottom to the grate bars, or it may be tapered with its smaller diameter at the upper part, the air-door on opening being somewhat larger than the grate bar part to furnish a full supply of air. At the bottom of this construction there is a door of about the same diameter or rather more than the top of the chimney directly below the fire-grate. This door is double, so as to introduce between the two sand or dust, in order to interrupt the current of air to keep the fire alight night and day. This construction is made so as to give a current of air very rapid and very strong, according to its depth beneath the fire-grate; the greater the depth the stronger and more rapid will be the column of air. At the level of the grate, which is about level with the ground, there is a door which serves to clean the furnace grate, and about 2 ft. above this door there is another door which serves to make the fire from which the heat is derived.

The top of the furnace brickwork is provided with a cap to compel the escaping gases from the cover to pass through an opening in the side wall leading to the chimney. This chimney is placed above the furnace and is available, if desired, to direct the smoke and gas from out the foundry. The outlet from the furnace may be directed by a flue or flues in a downward direction to about 3 ft. above the air supply door, to check the outflow of the escaping gases. By this means the gases, which become developed at the top of the furnace, may be utilised by their expansion and consequent pressure on the top of the metals under operation, or upon other bodies which may be in the furnace (say) for bricks, which have to be dried or burnt.

The furnace constructed as described is available for ordinary crucibles, and four or six of such crucibles may be placed in, as found convenient, in order to economise fuel. The heat in this furnace is strongly induced through the length or height of the furnace structure below the fire-grate, and without having recourse to a steam-engine by the great force of the column of air which comes from the bottom of the furnace, which is, as before stated, very deep in the form of a chimney, the fire thereby drawing in the air with avidity. The gases from the fuel in this furnace are very much lighter than the outer air, and exert great heating power around and against the crucible or material under operation.

By this invention the heat from the fire when cone-shaped crucibles are used always finds itself contracted against the sides when ascending to the top of the crucible, and gives to it greater heat. The space above the top of the crucible enables the heat to be kept on top as well as all around. The heat at the top of the crucible is, however, slightly greater than that of the sides, because it is lighter, and concentrated by the opposition of the narrow passage in the cover. By this invention the usual outside high stack or chimney is dispensed with, and also the steam-engine and the blowing and suction apparatus which now induces draught, and regulates heat in such furnaces.

COMBINED STEAM-ENGINES AND PUMPS.

The nature and novelty of the invention of Mr. W. Hamilton, Glasgow, will be best understood from the statement that the steam cylinder is placed in the same axial line as the pump, which is of the ordinary plunger class with the stuffing box of its barrel chamber facing that of the close end of the steam cylinder, having sufficient room between them for packing and screwing them up, and when the pump plunger is the same size or smaller than the piston-rod they may be cast in one piece, preferably also (for small sizes of engines) in one with the steam piston, which would then be inserted into the steam cylinder at the upper or outer end closed by an ordinary flanged cover and screw bolts; and for small engines the steam cylinder and pump barrel may be cast in one to a flange bracket or sole plate for bolting it to a wall vertically or other suitable foundation horizontally. The steam cylinder and piston rod are made long enough to have the inlet steam branch formed on the centre of the cylinder so as to admit the steam direct to the valve chamber formed in the middle of the piston as a transverse rectangular steam chamber having its ends facing each other and placed for the slide valve to work or reciprocate across.

Packing rings are fitted in each end of the piston, and space is left between them and the inner ends of the cylinder equal to the stroke of the crank piston and clearance desired for the steam to act, and the steam and exhaust ports are formed in the end of the piston next the piston-rod and pump plunger, which are both hollow and in a line with the exhaust port formed in the centre opposite or in a line with the hollow rod, so that the exhaust steam escapes or rushes direct into the hollow plunger of the pump, which by the improvements is made to form the condenser to the engine, and the pump to act as an air pump to it, as will hereinafter be more fully described, the steam ports being formed on either side of the exhaust port, the one leading direct into the front end of the cylinder and the other to the back end of the piston and cylinder through one of the segments joining the two ends of this duplex piston on each side of the steam chamber of the slide valve (working in it) preferably formed in two parts, the one as an ordinary short slide valve with end faces over the steam ports, and the close D chamber between them through which the steam exhausts from either end of the cylinder into the hollow piston rod and pump plunger, as stated, while the other part of the valve fits into a close turned chamber in the back part of the valve proper, and has its other face working against the planed back face of the valve chamber, thus keeping the face of the valve up against the opposite or front face with the ports in it, and otherwise acting as a guiding and moving block to the valve port by a lateral hole in it into which the crank pin works, the crank end of a shaft passed through an elliptical hole in the part of the centre of the cylinder, and revolves in the port space of the piston cut away to form the steam valve chamber, the spindle or outer part of the crank shaft working out through a bush bearing block secured to a steam-tight flange or otherwise over the hole in the cylinder through which the crank is inserted, and having a steam-tight stuffing-box outside the bearing, and a fly-wheel on the outer hanging end when a single cylinder engine is used: but two such direct acting steam pumps might be fitted to work together as a double cylinder engine on the same framing, with a coupled crank shaft with the cranks at right angles to each other, which arrangement would be most suitable for motive-power engines, as for marine engines, or engines for the propulsion of tramway cars, or for other purposes. The hollow plunger of the pump is fitted with a good number of surface condensing cross tubes as close as convenient throughout its whole surface length at various radial angles open at their outer ends beyond the stuffing-box, where it works freely in the barrel or chamber with a space all round sufficient to allow the water to pass the plunger and circulate through the cross tubes when passing from the inlet water valve chamber and branch at one end of the end of the barrel to the outlet branch and valve chest at the upper or inner end of the barrel near the stuffing-box, where an annular chamber is formed all round to lead the water freely from the tubes to the outlet branch. The exhaust steam in passing through the inside of the plunger as a surface condenser gets condensed on its surface, and that of the tubes, on which it impinges, these being always kept cold by the water circulating through them and the space between the barrel and the plunger. The condensed steam as water and any vapour or air not condensed passes off by a small tube at the extreme end of the plunger, working through a stuffing-box in the end of the pump barrel into a close discharge chamber fitted with a blow-off cock on it for letting the exhaust steam escape at starting, and also with an outlet branch and valve leading to the inlet cold or supply water valve chamber of the pump.

When the pump is properly at work, and the water circulating through it and the cross tubes, the blow-off cock is shut, and the hot condensed water and air or vapour drawn through the pipe and valve controlled by a regulating screw into the suction valve chamber, and forced through the pump with the inlet water, and when desired, a self-acting check valve opening outwards may be fitted at the extreme end of the hot water discharge pipe of the plunger, which would allow a free escape of the exhaust steam and condensed water, but prevent their flowing back, and even force the hot water into the inlet valve chamber of the pump on the inward stroke of the plunger, thus enabling the pump to use all the waste hot water of the condensed steam, and feed it into the boiler at as high a temperature as was found possible to condense the steam, shutting down the inlet lift of the water valve as found desirable to suit the best working condition of the pump. When this construction of engine is used for motive power driving purposes the power might be transmitted by a wheel or pinion keyed on the duplex crank shaft coupled between the engines to drive the other shafts and gearing when tooth gearing is to be employed; but when bands or belts are to be used a grooved or flat pulley or drum might be keyed on the middle of the said crank shaft, and it might be made to act as a fly-wheel also when desired. In some cases the hollow pump plunger may be used in whole or in part as a jet condenser by perforating it with small holes, or by inserting a perforated rose pipe through the sides near the stuffing-box when at the outer part of its stroke, so that a portion of cold water might enter in jets near where the steam enters, and have all the benefit of the cold surface condensation of the plunger or tubes beyond; and the small tube with its valve beyond might in that case be made to force the hot condensed water direct into the boiler by shutting the connection between the chamber and that of the pump supply valve chest, and this would be done also for surface condensation (without rose jets) where the water passed through the pump is saline or bad for being put into the boiler by the force pump, and for marine engines where salt water would be circulated through the pump.

Compressed Air Engines.—An invention of considerable importance in connection with mining by machinery where compressed air is used has been invented by Messrs. Stear and Daniel, of Barnsley. It has for its object to construct the valve gear of engines worked by compressed air in such a manner that the formation of ice in the ports is prevented. This is accomplished by allowing the exhaust air to discharge direct into the atmosphere at each end of the cylinder, the valve or valves being worked by eccentrics in the usual manner, or by tappets, or from the cross head, or by other methods.

New River Company.—Messrs. Edwin Fox and Bousfield sold at the Auction Mart, on Wednesday, part of a king's freehold share in the New River, in three lots, at the rate of 97,200*l.* per share; they also sold 63 new 100*l.* shares, paid-up, in the same corporation for 17,985*l.*, or at the rate of about 285*l.* per share.

Oakham Collieries Company (Limited).—Mr. Justice Lopes, acting for the Master of the Rolls, has appointed Alfred Good, of the Poultry, public accountant, and Charles Frederick Finney, of St. George's-crescent, Liverpool, public accountant, to be official liquidators of this company.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF JOSEPH DICKINSON, Esq., H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, will be HELD on the 13th day of December next, and CANDIDATES INTENDING TO PRESENT THEMSELVES at such Examination must, on or before the 8th day of December next, notify such intention to the Secretary of the Board of the above-mentioned District, from whom all information as to particulars required may be obtained.

By order of the Board,
MASKELL W. PEACE, King-street, Wigan, Secretary.

N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

THE MINING INSTITUTE OF CORNWALL.

EXHIBITION AND CONVERSAZIONE.

THE FIRST EXHIBITION of MODELS of IMPROVED MINING MACHINERY, SCIENTIFIC APPARATUS, MINERALS, SPECIMENS, &c., in connection with the above Institute, will be HELD on the 22nd and 23rd November next, at the Assembly Rooms, Camborne.

Forms of applications for space by intending exhibitors, and further particulars, may be had by applying to—
THOMAS B. PROVIS, General Secretary.
Chapel-street, Camborne.

THE MINING INSTITUTE OF CORNWALL.

THE MECHANICAL COMMITTEE invites all INVENTORS and POSSESSORS of MODELS of MACHINES applicable to MINING PURPOSES, to communicate with me, with a view of EXHIBITING THEM AT CAMBORNE, on the 22nd and 23rd of November next.

Certificates of Merit will be awarded by the Council.
There will be no charge for space, but a small commission on all articles sold.

WILLIAM TEAGUE, Jun.,
Secretary of Mechanical Department.

HYDRAULIC PUMPING ENGINES, TWO, 50 H.P.
ENGINES ON SALE—a Bargain.
Apply,—SUN FOUNDRY, LEEDS.

WANTED, a HORIZONTAL ENGINE, about 26 inch cylinder, from 4 to 5 ft. stroke, with back motion, SUITABLE FOR PUMPING.
Apply, stating price and particulars, to "W. B.," Oakerthorpe Colliery, near Alfreton, Derbyshire.

WANTED, for LEAD MINES in SPAIN, an UNDERGROUND CAPTAIN. A knowledge of the language preferred.
Apply to "Director des Mines de Villagutierrez," Almodovar del Campo, Province de Ciudad-Real, Spain.

WHEAL NEWTON IS PAYING 80 PER CENT. PER ANNUM.
HOLMBUSH " 30 " "
SHARES in the ABOVE, and in all other DIVIDEND MINES, may be SOLD or BOUGHT through EMMENS and Co. (Limited), 134, Palmerston Buildings, Bishopsgate-street, London, E.C.

THE FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY (LIMITED).

Notice is hereby given, that the next ANNUAL MEETING of the Shareholders of the Company will be HELD at the City Terminus Hotel, Cannon-street, in the City of London, on FRIDAY, the 2nd day of November, 1877, at Two o'clock P.M., for the following purposes:—

To receive the report of the directors and the audited statement of accounts of the Company for the two half-years ending the 31st December, 1876.
To elect directors; to elect an auditor; and for other business.

By order of the Board,
J. JAMESON TRURAN, Secretary.
Gresham House, Old Broad street, London, E.C., 18th October, 1877.

BORING MACHINERY.

FOR SALE, a double acting WET COMPRESSOR, 6 ft. 6 in. stroke, 12½ in. diameter, suitable for driving by water wheel or vertical engine. This is in a condition equal to new, and is being disposed of to make room for larger.

Also, a 4 ton WEIGHBRIDGE or a 12 ton ditto, in condition equal to new.
Apply to Mr. CORNELIUS BAWDEN, Redruth.

COLOSSAL FORTUNE.—£500 for the outlay of every £10, by clearing with Advertiser his enormous profits, preceded by trifling petty preliminary expenses, in the PROMOTION of a recherché and unique NON-SPECULATIVE MERCANTILE COMPANY.
Interesting particulars of "Secretary," 38, Tavistock Crescent, Westbourne Park, London, W.

C. H. WALKER AND CO.,

MINING AGENTS AND ENGINEERS,
VALPARAISO AND SAN IAGO,
CHILE.

Mr. E. JACKSON,

Associate of the Royal School of Mines,
ANALYST AND ASSAYER.

Reports or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and Iron Ores. ASSAYING TAUGHT.

106, QUEEN VICTORIA STREET, LONDON, E.C.

THE TRANSVAAL.

THE BLUE BANK GOLD REEF.—FIFTY THOUSAND POUNDS REQUIRED to WORK this GOVERNMENT CERTIFIED GOLD REEF: £1760 has already been expended in its development, and from careful surveys by competent authorities a very large return may be expected.

The mines claims extend 1050 ft. along the Reef, by 200 ft. wide, and a full government title is guaranteed, according to the Gold Law of the Colony.

Messrs. Johnson, Matthey, and Co., Assayers to the Bank of England, Her Majesty's Mint, &c., give a high opinion of the value of the quartz, and the Reef recently inspected by a mining captain in whom they have entire confidence.

Money is wanted in sums of not less than £250, half of which is only now spent, and every shilling shall be expended purely and solely for necessary plant and appliances under the eye of an agent to be appointed by the subscribers. The undersigned will hand over in trust for the subscribers a free Government title to 4000 acres of fine farm land as a security for the *bona fides* of the undertaking until its genuineness has been proved.

For further particulars, apply to H. C McDONALD and Co., Agent for the Mines, 116, Fenchurch-street, London, E.C.

THE BIRMINGHAM WAGON COMPANY

(LIMITED)

MANUFACTURE RAILWAY CARRIAGES and WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have Wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract. MANUFACTURERS also of IRONWORK, WHEELS, and AXLES.

EDMUND FOWLER, Managing Director.

WAGON WORKS,—SMETHWICK, BIRMINGHAM.

LEAD ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Clogfawr	70	£13 15 0	Panther Lead Company.
East Logvlas	14	11 2 6	Sheldon, Bush, and Co.
Cwmystwith	25	11 11 6	"
Tankerville	100	12 10 0	ditto
Minera	9	12 9 0	Panther Lead Company,
ditto	86	12 6 0	ditto
ditto	24	12 5 6	Walker, Parker, and Co.
ditto	30	12 5 6	ditto
Great Laxey	7	12 10 6	Panther Lead Company.
Leadhills	100	19 15 0	Runcorn Company.
Ladywell	100	11 13 0	Walker, Parker, and Co.
Roman Gravels	20	11 2 6	Sheldon, Bush, and Co.
ditto	50	12 13 6	ditto
ditto	50	12 11 6	ditto
ditto	50	12 11 0	Nevill, Druce, and Co.
ditto	25	12 11 6	Adam Eyton.

BLENDE.

Mines.	Tons.	Price per ton.	Purchasers.
Minera	66	£ 4 11 6	Dillwyn and Co.
ditto	18	4 2 6	Vivian and Son.
ditto	27	3 13 6	"
ditto	34	4 8 6	ditto
Roman Gravels	24	3 10 6	Dillwyn and Co.
Pandora	25	4 2 6	Villiers Spelter Co.
ditto	40	2 1 6	Dillwyn and Co.

COPPER ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Parys Mountain	100	£ 0 19 0	H. Hills and Sons.
46 tons of Copper Precipitate, at		8 15 0	ditto

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the OKEL TOR MINE COMPANY.—By the direction of His Honor, the Vice-Warden, Notice is hereby given, that on THURSDAY, the 8th day of November next, at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, in the county of Cornwall, this Court will proceed to MAKE a CALL of TWO SHILLINGS PER SHARE on all the contributories of the said company, settled on the List of Contributories thereof as present members.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

CHARLES LEE NICHOLS, Official Liquidator.

Dated No. 1, Queen Victoria street, in the City of London, the 24th day of October, 1877.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the TUCKER'S DOWNS MINING COMPANY.—ALL CREDITORS or CLAIMANTS of the above named company, who have not received notice from the Official Liquidator thereof, that their claims have been already admitted, are hereby required to COME IN and PROVE THEIR SEVERAL DEBTS OR CLAIMS, at the Registrar's Office, in Truro, within the said Stannaries, on Saturday, the 3rd day of November next, at the hour of Eleven o'clock in the forenoon, or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof, they are either to attend in person, or by their solicitors or competent agents, at the place and time above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, 23rd October, 1877.

TUESDAY, OCTOBER 30TH, NOON.

WHEAL UNITY WOOD, SCORRIER.

MR. W. T. DAVEY AND MR. J. THOMAS have been favoured with instructions TO SELL, at PUBLIC AUCTION, on Tuesday, October the 30th, at the UNITY WOOD MINE, near the Scorrier Station, on the West Cornwall Railway, the WHOLE of the VALUABLE

MACHINERY AND MATERIALS

THEREON, CONSISTING OF—

ONE 70 in. cylinder PUMPING ENGINE, stroke 10 ft. by 9, with THREE BOILERS, 36 tons, and iron balance bob.

1 60 ft. shears and pulleys.	3 18 in. windbores.
1 12 armed capstan.	30 15 in. pumps.
200 fms. 15 in. capstan rope; about	1 15 in. H piece and doorpiece.
500 fms. steel wire rope, from 1½ to 2 in.	1 15 in. windbore.
40 20 in. pumps.	1 13 in. pole, with stuffing box and
3 18½ in. working.	gland.

20 fms. 13 in. pumps, with working barrel, windbore, and door; 14 fms. 10 in. pumps, with working bottom complete; 20 fms 6 in. pumps, with plunger bottom complete; 40 pairs faggotted strapping plates, from 6 in. to 9 in.; 40 fms. 15 in. rods; 30 fms. 2 in. bucket rods; 18 in. buckets and forms; seatings and clacks; rod and flange bolts; staples and glands; link chains; shaft rolls; drop screws; underground balance bob; cisterns; 200 fms. ladders; smiths' and miners' tools in variety; winch lifting jacks, &c., &c.

ONE 20 in. cylinder double acting WINDING ENGINE, 6 ft. stroke, with ONE BOILER, 10 tons; 2 iron stamps axles, with lifters, cams, &c., with 32 heads of stamps, with buddles, floors, frames, &c., and dressing floors, complete; iron tube and dry; 1 20 ft. water wheel, 18 in. breast, and 2 6 ft. ditto; wood sheds, &c.

Large quantity of IRON in yard, BRASS, &c.; new and old TIMBER; and a considerable quantity of MATERIALS, with other things in general use on Mines; also the

ACCOUNT HOUSE FURNITURE and the TIN LEAVINGS.

All the above are of the very best description, but especial attention may be drawn to the Pumping Engine, which is considered by competent judges to be one of the finest engines in Cornwall; a reference to Lean's Reporter will show that its duty has been invariably above the average, and usually the highest in the list.

Refreshments will be provided at Eleven, and the sale will commence at Twelve o'clock to the minute.

Further particulars may be obtained on application to HENRY MICHELL, Esq., Scorrier; Capt. GEO. TREMAYNE, the Manager; or of JOHN HOCKING, Jun., Esq., the Engineer; or the Auctioneers, Redruth.

Dated October 9th, 1877.

SADDLE-BACK LEAD MINING COMPANY (LIMITED).

TO BE SOLD, as a going concern, all the INTEREST of the above company in the EXTENSIVE PROPERTY, formerly known as the WOOD-END AND GATEGILL MINES, now known as the SADDLE-BACK MINES, situate near Threlkeld, Keswick, Cumberland, and also the WHOLE of the PLANT upon the said Mines.

These Mines have been very productive of lead, and the prospects for immediate improvement are very great.

Four veins can be seen in the sett, which is upwards of one mile square.

The Mines may be inspected on application to Mr. WM. PORTER, Threlkeld, and full particulars as to lease, terms, &c., obtained from the Secretary, to whom offers must be sent on or before the 1st of December, 1877.

The Directors do not bind themselves to accept the highest or any offer.

Annan, Sept. 26, 1877. WILLIAM DOBBIE, Secretary.

TO CAPITALISTS.

AN UNUSUALLY FAVOURABLE OPPORTUNITY OFFERS for ONE or MORE GENTLEMEN to JOIN in DEVELOPING a LEAD MINE in SOUTH WALES.

The Advertiser has opened the ground towards the lodes, but can proceed no further without additional capital. A few thousand pounds would thoroughly explore the sett, which has been examined and favourably reported on by experienced Mining Engineers. Arrangements would be made either to WORK the MINE PRIVATELY, or the Advertiser would treat with a Gentleman of influence sufficient to BRING OUT a COMPANY in a *bona fide* manner. All necessary information given; investigation courted.

Address, "A. B. C.," care of Messrs. Roberts and Syddon, Stock Brokers, Cardiff.

TO CAPITALISTS, AND BROKERS.

A SYNDICATE is in COURSE of FORMATION for the purpose of ERECTING WORKS for the TREATMENT of ORES, and the ELIMINATION of the METALS.

Those in a position to assist in raising the necessary capital may hear of something to their advantage on addressing "Smelter," care of MINING JOURNAL, 26, Fleet street, for full particulars.

THE OWNERS of a SMALL PROMISING NEW COLLIERY in NORTH WALES wish to DISPOSE of HALF THEIR SHARES to complete improvements. A shaft has just been sunk to an excellent seam of Coal and Fire-clay.

For particulars, apply to JOHN PARRY, Glyn Cottage, Mostyn, near Holywell.

FOR SALE, ONE HUNDRED SHARES in the SOUTH ROSKEAR TIN AND COPPER MINE, which adjoins the celebrated Dolcoath Mine, parish of Camborne, Cornwall. The shares have £12 8s. paid, including the call of 15s. just made. This is a most favourable oppo tunity for making a profitable investment.

For further particulars, apply to ROBERT LORIMER, 5, Great Winchester street, London, E.C.

FOR IMMEDIATE CASH—FINE INVESTMENTS AT HALF VALUE.—ONE HUNDRED (£5) SHARES in NEW BRONFLOYD MINE (£3 paid, 1's. call to pay). Will accept £2 per share (about). Shares must see £8 in the Spring—have been sold for £8 per share.

Apply, "Delta," MINING JOURNAL Office, 26, Fleet-street, London.

FOR SALE, the "HUSH EISTEDDFOD LEAD MINE," MINERA, near WREXHAM, NORTH WALES, together with ENGINE and other MACHINERY and PLANT, all in good working order.

The mine has been in work up till the present, and is situated near to the celebrated Minera Mines, and on the same vein. This is a promising investment, only wanting capital to develope it.

For particulars, apply to THOS. H. MICHELL, Minera Cottage, near Wrexham; or to J. ELTRINGHAM, 19, New-street, Newcastle-on-Tyne

FOR SALE, price £3000, VALUABLE RED HEMATITE IRON ORE ROYALTY. The ore is of the highest quality, and has been proved for a distance of a quarter of a mile in a straight line. Formation Limestone, near Coal Measures.

Apply to J. FLETCHER PAGEN, C.E., F.G.S., St. Austell, Cornwall.

FOR SALE, a 14-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, also gear to wind and pump.

A 25-horse power PORTABLE.

An 18-horse power VERTICAL STEAM ENGINE, and a 9½ in. cylinder VERTICAL ENGINE, and combined winding drum.

A 6-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.

Apply to—
BARROWS AND STEWART, ENGINEERS, BANBURY.

FOR SALE, at NEW PEMBROKE MINE, CORNWALL.—An excellent 80 in. cylinder PUMPING ENGINE, with FOUR good 12 ton BOILERS.

25 in. DRAWING ENGINE, and TWO BOILERS.
TWO SPARE BOILERS.
THREE IRON STAMPS AXLES.
100 fathoms FLAT RODS, 3½ inch.
A quantity of ROD PLATES and other MATERIALS.

Apply to Mr. JOHN POLKINGHORNE, PAR OFFICE, PAR STATION.

THE CAMBRIAN MINES (LIMITED).—We are DEALERS in FIVE to FIFTY, and up to ONE THOUSAND SHARES, fully paid up, £2 each. Purchasers and sellers are requested to communicate with the undersigned without delay, as the discovery of copper ores is at present the richest known throughout Great Britain. See Mr. R. Tredinnick's Letter in this day's Supplement.

TREDINNICK AND CO.
Exchange, 66, Coleman-street, London.

KIT HILL TUNNEL (LIMITED).

THE SHARES of THIS COMPANY CARRY INTEREST at FIVE PER CENT., in addition to PARTICIPATING in a ROYALTY PAYABLE upon the PROFITS of each LODE CUT by the TUNNEL.

The present price of the £5 shares, with £1 paid up, is 25s.

SHARES may be SOLD or BOUGHT, and full information may be obtained on application to—

EMMENS AND CO., MINING ENGINEERS, 134, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

MINERALS.

A COLLECTION WILL BE SOLD, which partly consists of the MOST RARE SIBERIAN SPECIMENS.

Enquire at—
F. A. REICHARDT, St. Petersburgh, Russia.

S. T. SHUTTLEWORTH,

PATENTEE OF THE IMPROVED APPARATUS FOR PREVENTING INCRUSTATION IN BOILERS, &c.

MANUFACTURER OF SUPERIOR
GUN METAL STEAM COCKS, VALVES, BOILER MOUNTINGS,
And CAST IRON STEAM and SAFETY VALVES, with GUN METAL SEATS.
ALL ORDERS PROMPTLY EXECUTED.

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16	4 9	6 6	8 0	9 4	10 8 "
17	5 0	7 0	8 8	10 0	11 4 "
18	5 3	7 6	9 4	10 8	12 0 "
19	5 6	8 0	10 0	11 4	12 8 "
20	5 9	8 6	10 8	12 0	13 4 "
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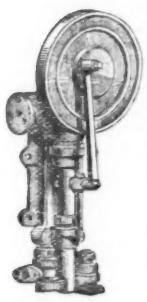

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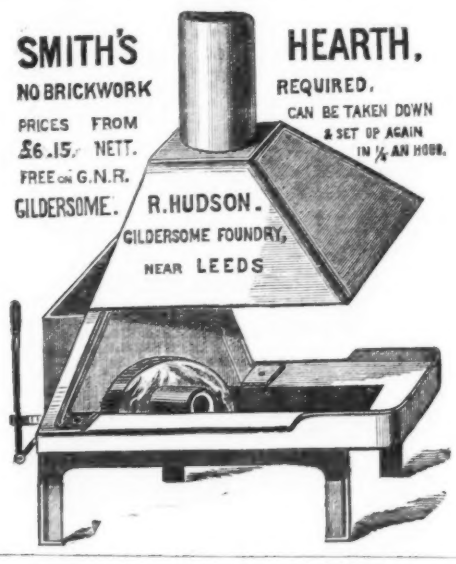

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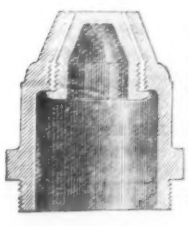

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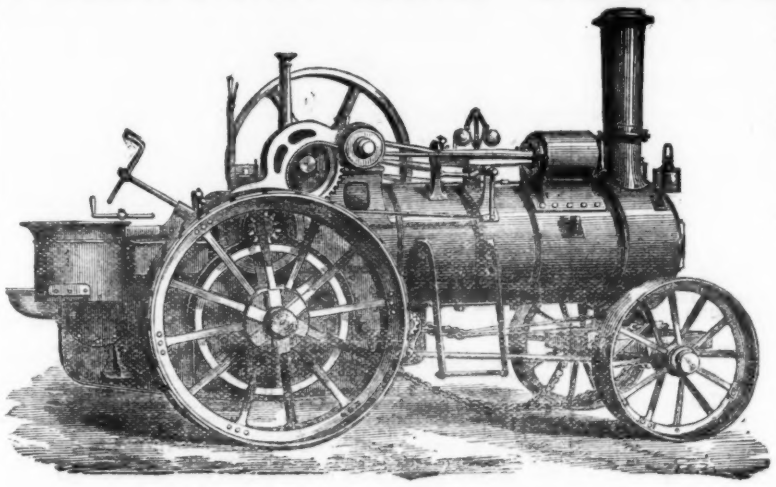

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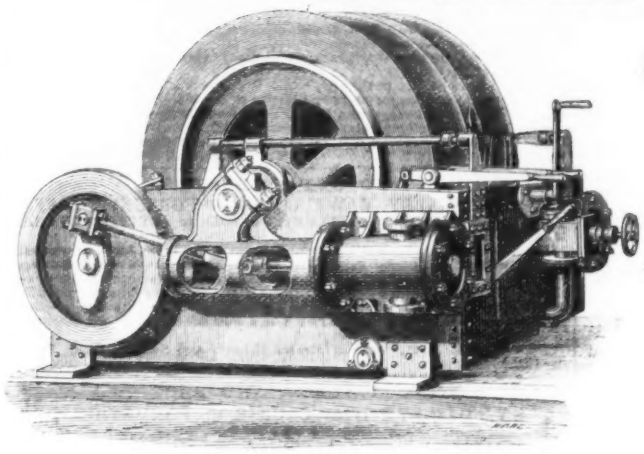

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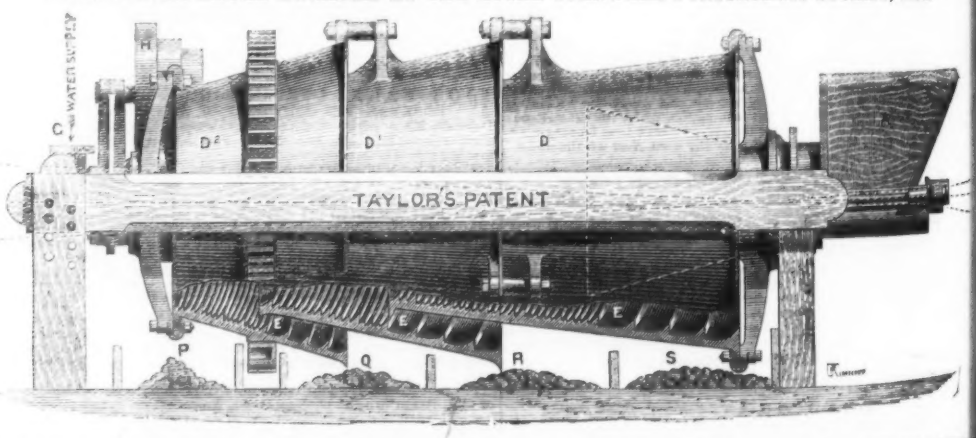

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Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
1500	Alderley Edge, c, Cheshire*	10 0 0	—		12 11 8	0 5 0	Jan. 1876
15000	Balmynheer, t, Wendron (4000 to is.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
30000	Bampfylde, c, i, mn., Devon*	1 0 0	1⅝	⅝ ⅞	0 2 0	0 2 0	June 1873
4000	Brookwood, c, Buckfastleigh	1 16 0	1	½ 1	3 16 0	0 2 0	Nov. 1877
2000	Bryn Alyn,* l, Denbigh. (10l. sh.)	8 0 0	—		0 7 0	0 7 0	Jan. 1875
6100	Cashwell, l, Cumberland*	2 10 0	2¼	2 2¼	1 9 6	0 2 0	Aug. 1876
1000	Carn Brea, c, t, Illogan†§	36 7 6	39	40 42½	308 0 0	1 0 0	Feb. 1874
2450	Cook's Kitchen, t, Illogan†§	23 17 3	2	1½ 1¾	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	1 0 0	3½	2½ 3	116 15 0	0 5 0	July 1877
4296	Dolcoath, c, t, Camborne	10 14 10	37	36 38	111 16 3	0 5 0	Sept. 1877
5000	East Black Craig,* l., Scotland	5 0 0	—		0 10 0	0 10 0	Feb. 1877
300	East Darren, l, Cardiganshire	32 0 0	—		235 10 0	1 0 0	Aug. 1876
6100	East Pool, t, c, Illogan	0 9 9	9½	9 9½	15 2 3	0 2 0	June 1877
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1¼	1 1¼	0 12 10	0 0 6	Mar. 1877
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	6¼	5¾ 6¼	0 5 0	0 5 0	Aug. 1877
15000	Great Dyliffe,* l, Montgom.	4 0 0	2¼	1¾ 2	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, l, Isle of Man*	4 0 0	21	20½ 21½	22 13 0	0 10 0	Oct. 1877
615	Gt. Retallack, l, bl, Perranzabuloe	5 18 6	—		0 1 6	0 1 6	May 1876
25000	Gt. West Van, l, Cardigan,* pref.	2 0 0	⅜	¼ ⅜	0 2 0	0 1 0	Aug. 1874
6400	Green Hurth, l, Durham*	0 6 0	3	2¾ 3	1 15 0	0 3 0	Aug. 1877
20000	Grogwinion, l, Cardigan*	2 0 0	3½	3¼ 3¾	0 12 0	0 4 0	Feb. 1877
9830	Gunnislake (Clitters'), t, c	5 5 0	2¾	2½ 2¾	0 13 9	0 1 0	Oct. 1876
1024	Herodsfoot, l, near Liskeard†	8 10 0	6½	6 6½	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, c, Calstock*†	0 4 0	¼	⅛ ¼	0 1 0	0 1 0	Nov. 1875
60000	Holmbush, a, c, s-l, Callington*	1 0 0	2	1¾ 2	0 3 6	0 0 6	July 1877
2800	Isle of Man, l, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
20000	Leadhills,* l, Lanarkshire	6 0 0	5¼	4¾ 5⅛	0 12 0	0 6 0	Oct. 1877
400	Lisburne, l, Cardiganshire	18 15 0	80	65 70	582 10 0	1 0 0	July 1877
14000	Llanidloes,* l, Montgomery	3 0 0	2	1 1½	0 9 0	0 4 6	Nov. 1876
5120	Lovell, t, Wendron	0 16 0	—		0 17 6	0 1 6	Jan. 1874
9000	Marke Valley, c, Linkinhorne	5 3 6	¾	⅝ ¾	7 15 0	0 2 0	Jan. 1876
9000	Minera Mining Co., l, Wrexham*	5 0 0	20	16 18	67 8 2	0 3 0	Oct. 1877
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	—		23 11 6	0 3 6	Jan. 1876
444	North Busy, c, Chacewater	3 9 6	5	4 5	1 10 0	1 0 0	July 1877
10289	North Hendre, l, Wales	2 1 0	—		1 12 6	0 2 6	Aug. 1877
6000	Pedn-an-drea Con., t, Redruth	0 8 6	7⅛	6⅞ 7⅛	0 9 0	0 9 0	June 1877
5000	Penhalls, t, St. Agnes	3 0 0	⅜	¼ ⅜	3 18 6	0 2 0	July 187
6000	Pennant, l, bar, North Wales*	5 0 0	5½	5 5⅛	0 5 0	0 5 0	Mar. 1877
45793	Penstruthal,* t, c, Gwennap	2 0 0	⅜	¼ ⅜	0 2 8	0 0 8	Nov. 1875
12000	Phœnix, & W. Phœnix, t, c, Link.§	5 7 3	5	4½ 5	2 9 6	0 4 0	Nov. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	2¼	1¾ 2¼	0 14 0	0 1 3	Jan. 1876
12000	Roman Gravels, l, Salop*	7 10 0	8½	7¾ 8¼	7 10 0	0 8 6	May 1877
512	South Caradon, c, St. Cleer	1 5 0	100	90 100	739 10 0	1 0 0	Oct. 1877
6123	South Condurrow, t,c, Camborne‡	6 5 6	8½	8¾ 9¼	2 18 0	0 6 0	Sept. 1877
12000	St. Harmon,* l, Montgom.	3 0 0	3¼	2½ 3	0 3 0	0 3 0	Jan. 1877
1?000	So. Pr. Patrick,* s-l.(8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
1?000	Tankerville, l, Salop*	6 0 0	5½	4⅞ 5⅛	4 17 0	0 5 0	Dec. 1876
3000	Tincroft, c, t, Pool, Illogan†	9 0 0	16	15 16	50 8 6	0 5 0	May 1877
15000	Van, l, Llanidloes*	4 5 0	32	32 34	22 3 6	0 12 0	Oct. 1877
3300	W. Chiverton, l, Perranzabuloe†	12 10 0	16	13½ 14½	55 0 0	0 10 0	Jan. 1877
1783	West Poldice, St. Day	10 0 0	13	11 13	1 19 0	0 4 0	July 1876
512	West Tolgus, c, Redruth	95 10 0	77	73 75 xd	23 15 0	1 10 0	Oct. 1877
2048	West Wheal Frances, t, Illogan	28 1 3	4½	3½ 4	3 12 6	0 5 0	Oct. 1872
12000	West WyeValley,* l, Montgom.	3 0 0	3	3 3½	0 6 0	0 3 0	Nov. 1876
1024	Wh. Eliza Consols t, St. Austell	18 0 0	—		15 10 0	1 10 0	Oct. 1877
2048	Wheal Jane, t, Kea	2 13 10	1⅝	1⅜ 1⅝	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, t, St. Agnes	5 4 6	2¼	1¾ 2¼	11 19 6	0 2 6	Dec. 1874
25000	Wh. Newton, a, c, s, t, Calstock*	1 0 0	5⅛		0 4 6	0 4 0	June 1877
80	Wheal Owles, t, St. Just§	86 5 0	80	65 70	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, t, Redruth	2 0 0	4¾	4½ 4¾	0 4 0	0 1 0	July 1877
25000	Wicklow c, sul, i, Wicklow	2 10 0	—		52 9 0	0 2 4	Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	3	2½ 3¼	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, l, Spain*†	2 0 0	1¼	1¼ 1¾	1 18 3	0 1 0	Oct. 1877
60000	Almada and Tirito Consol., s*†	1 0 0	½	⅜ ⅝	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2	1½ 2	0 19 6	0 1 6	July 1877
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	⅜	¼ ⅜	0 14 0	0 2 6	June 1874
12320	Burra Burra,* c, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	37	35 37	28 15 0	1 0 0	June 1877
40000	Cedar Creek, g, California*	5 0 0	⅝	⅜ ⅝	0 5 0	0 2 6	June 1873
35000	Cesena Sul. Co., Romanga, Italy*	10 0 0	—		0 10 6	0 3 0	Aug. 1877
15000	Chicago, s, Utah*	10 0 0	1½	1 1½	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, s-l, Colorado*†	5 0 0	2	1½ 2	0 13 6	0 4 0	Jan. 1876
10000	Copiapo, c, Chili* (£20 shares)	16 15 0	—		7 11 5	0 3 0	May 1877
100000	Don Pedro North del Rey*†	0 16 0	⅜	⅜ ⅝	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt & Aurora, s, Nevada*†	10 0 0	5	4½ 5	1 8 0	0 3 0	Dec. 1876
70000	English & Australian, c† S. Aust.	2 10 0	1½	1½ 1⅝	2 15 9	0 1 0	Mar. 1877
30000	Flagstaff, s, Utah*	10 0 0	2½	2⅜ 2⅝	4 3 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	3 0 0	5½	5¼ 5¾	6 14 10	0 6 8	Oct. 1877
55000	Frontino & Bolivia, g, New Gran.*†	2 0 0	3¼	2½ 3	0 1 0	0 1 0	June 1876
30000	Gold Run, hyd.	1 0 0	—		0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	1	¾ 1	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	6¾	6¼ 6¾	17 3 10	0 6 8	Oct. 1877
65000	London and California, g*†	2 0 0	¾	½ ¾	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 sh.)	3 10 0	—		1 11 6	0 1 6	Mar. 1873
5000	Mamm Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
10000	Pontgibaud, s-l, France†	20 0 0	28	26 28	23 1 1	1 11 1	Nov. 1876
100000	Port Phillip, g, Clunes*†	1 0 0	⅜	¼ ⅜ xd	1 9 0	0 1 0	Sept. 1877
54000	Richmond Consols, s, Nevada*†	5 0 0	6¼	6½ 7	3 9 0	0 7 6	Oct. 1876
40000	Santa Barbara,* g, Brazil	0 10 0	2	1¾ 2	0 3 9	0 1 3	May 1877
120000	Scottish Australian Mining Co.*†	1 0 0	2⅛	1⅞ 2⅛	15 per cent.		June 1877
80000	Scottish Austral. Mining Co., New	0 5 0	⅛	⅜ ½	15 per cent.		June 1877
112500	Sierra Buttes, g, California*†	2 0 0	1¾	1½ 1¾ xd	1 18 0	0 2 0	Oct. 1877
60000	South Aurora, s, Nevada*	5 0 0	¼	⅛ ¼	0 14 2	0 2 0	Nov. 1873
£2530000	St. John del Rey*† (£5 stock & multiples dealt in)			325 335	½ year … 20 p. ct. for Dec. 1876		
20000	Tolima, g, s* So. America	5 0 0	—		0 11 6	0 6 6	May 1874
25000	Victoria (London)*, g, Australia	1 0 0	⅜	⅛ ⅜	0 11 10½	0 0 10	Aug. 1876
15000	Western Andes, s,* New Granada	5 0 0	—		12 per cent. per an		July 1876
21000	W. Prussian(5500 pref. sh. 10l. pd)	10 0 0	11¼	10¾ 11¼	1 4 0	0 8 0	April 1877

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	3	2 3	Fully pd
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, hyd., California	5 0 0	3¼	3 3¼	Fully pd
49935	Chontales, g, s, Nicaragua*†	2 0 0	⅜	¼ ⅜	Fully pd.
16000	Condes of Chili, s-l	5 0 0	3	2½ 3	Fully pd.
20000	English Australian, g, Victoria*	0 10 0	⅞	⅝ ⅞	Fully pd
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Dec. 1871
100000	Exchequer, g, s, California*†	1 0 0	⅜	¼ ⅜	Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	—		July 1873
8000	Hornachos,* s-l, Spain	10 0 0	13	12 13	Fully pd
12000	Hultafall,* l, bl, Orebro, Sweden	5 0 0	6	5⅛ 6	Fully pd.
12000	Hunter Consolidated, s-l, Utah	6 0 0	6¼	5¾ 6¼	Fully pd
2?000	Imperial Brazilian Collieries, Brazil*	5 0 0	—		Fully pd
0?000	I. X. L., g, s, California*	1 0 0	⅛	⅛ ⅜	Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	⅛	⅛ ⅜	Fully pd.
3500	La Manche, l, Newfoundland	10 0 0	—		Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	—		Mar. 1876
75000	Malabar, g, Colombia* (67165 issued)	1 0 0	⅞	⅝ ⅞	Fully pd.
40000	Malpaso, g, Colombia* (7400 pref. shares, fully paid)	1 0 0	⅜	⅛ ⅜	Fully pd.
1?000	Menzenberg, c, Honnef, Germany*	5 5 0	—		Fully pd
4588	New Bensberg, i, l, Germany	5 0 0	—		Nov. 1876
6?000	New Quebrada, c, Venezuela*	5 0 0	2¼	1½ 2	Fully pd.
2?000	New Zealand Kapanga, g, Coromandel*	5 0 0	1¼	1 1¼	Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	4 0 0	—		Sept. 1876
50000	Panulcillo, c, Chili*† (£80000 debentures)	4 0 0	1¼	1½ 2	Fully pd
8?000	Pestarena United, g, Italy*†	3 0 0	¼	⅛ ¼	Fully pd
5?000	Providencia and New Rosario, s, Mexico*	1 0 0	—		Fully pd
80000	Rica, g, Colombia* (40000 issued)	1 0 0	¼	⅛ ¼	Fully pd
£2,181,000	Rio Tinto,* c, Huelva, Spain	Stock	57	55½ 56½	Fully pd
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	⅛	⅛	July 1872
30000	Russia Copper, Orenburg and Ufa*†	10 0 0	2¼	1¾ 2¼	Fully pd.
25000	San Pedro, c, Chili*	2 0 0	⅞	⅜ ⅝	Fully pd.
10000	Silver Plume, s, Colorado*	1 0 0	—		Fully pd.
30000	Tecoma, s, Utah*	10 0 0	½	¼ ½	Fully pd.
20000	Thornhill Reef, g, Australia*	1 0 0	—		Fully pd.
43174	United Mexican, s, Mexico*†‡	28 15 3	2	1½ 2	May 1875
14000	Utah, g, s-l, Utah*	5 0 0	—		Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	⅜	⅛ ⅜	Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	1	¾ 1	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	70	72
Bolivia, 6 per cent.	24	25
Brazilian, 1865, 5 per cent.	92	94
Chilian, 1866, 7 per cent.	101	103
City of Providence, 5 p.c.coupon bnds	99	101
Egyptian, 5 per cent. pref.	55¼	55¾
Do., unified debt, scrip	33⅛	34
Do., 7 per cent., V.M.L.	67	69
Do., 9 per cent. guar.	74	76
Do., 7 per cent., K.M.L.	43	44

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. ct.	65	70
Do., 5 per cent., 2d issue	52	57
Do., 6 per cent., 3d issue	50	55
Do., 1872, 4th issue	45	50
Do., 1873, 5th issue	46	51
Peruvian, 1870, 6 per cent.	13	13½
Do., 1872, 5 per cent	11	11½
Russian, 5½ per cent. L. Mort.	—	
Spanish, Quicksilver Mort., 5 p. ct.	95	97
United States Mort., 6 per cent.	96	98

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.
40000	Aberdaunant, l, Llanidloes*	1 0 0	⅜	⅛ ⅜
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	
80	Albion,* i, Cornwall	—	—	
7800	Alvig. & Burng.,*t, St. Aust.	3 0 0	3	2½ 3
18000	Ambrose Lake, t, c, Liskeard	1 18 6	—	
12000	Assheton, l, Carnarvonshire*	5 0 0	1¼	¾ 1¼
50000	Ballycummisk,* c, Schull	2 0 0	—	
12000	Bedford United, c, Tavistock	2 0 6	¼	⅛ ¼
23000	Belstone,* c, Devon (27,000 fy. pd.)	1 0 0	—	
15000	Blaen United,* s-l, Cardigan	1 0 0	—	
3937	Blue Hills, t, c, St. Agnes	3 7 6	—	
30000	Bodidris,* l, bl, Denbighshire	1 0 0	1¼	¾ 1
1000	Bollihope Vale,* s-l, Durham	5 0 0	5⅛	5 5¼
200	Botallack, t, c, St. Just‡	121 5 0	17½	15 17½
2000	Bowden Hill,* mn	1 0 0	—	
6000	Bradwell Moss Rake	1 0 0	1	⅞ 1
30000	Caldbeck Fells, l, Cumberland*	2 0 0	—	
50000	Cambrian,* s-l, c, Cardiganshire	2 0 0	2⅛	2 2¼
3348	Cargoll, s-l, Newlyn‡	6 14 0	2¾	2½ 2¾
10000	Caron, l, Cardigan*	2 0 0	3	2 2⅛
20000	Central Foxdale, l, I. of Man*(2l. sh.)	1 5 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
128	Clementina, l, Llanrwst	20 0 0	—	
7500	Combellack,* t, Wendron	2 0 0	2	1½ 2
6000	Combmartin, s-l, North Devon	0 7 0	¼	⅛ ¼
24000	Court Grange, s-l. (6000 sh. 10s. pd.)	1 0 0	1⅝	1⅜ 1⅝
20000	Cwm Dwyfor,* c, s-l, Carnarvonsh	0 16 3	—	
6500	Cwm Lanarch,* s-l, Carnarvon	2 0 0	2½	2¼ 2½
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	
512	D'Eresby Mountain, l, bl, Llanrwst	20 0 0	—	10 15
10000	Denbighshire Consolidated, l*	3 0 0	1⅛	1 1⅛
12000	Derwent,* l, Durham	4 0 0	—	1¾ 2
10000	Dubby Syke, l, Durham*	0 12 6	⅛	⅛
6144	East Caradon, c, St. Cleer‡	2 16 6	1	¾ 1
4000	East Chiverton, l, Perranzabuloe	6 17 0	2½	2½ 3
3000	East Craven Moor, l, Pateley Bridge	10 0 0	11	10 11
6000	East Goginan, l, Cardigan	2 0 0	—	
18000	East Van, l, Llanidloes*	5 0 0	3½	3 3½
1722	East Wh. Lovell, t, Helston	8 11 0	1⅛	1 1⅛
20000	Elgar,* s-l, Cardiganshire	1 0 0	1¼	1 1¼
8000	Fronvellan, l, Mont.* [4000sh.fy.pd.]	1 0 0	—	
3950	Gawton, c, Tavistock	4 5 6	⅜	⅛ ¼
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	—	
14000	Glenroy,* s-l, Isle of Man	4 0 0	1	⅞ 1
10000	Glyn,* l, Llanidloes	2 0 0	⅛	⅜ ⅝
12000	Goginan, & Level Newydd, Card., l	2 10 0	—	
100000	Gold, g, Merionethshire	1 0 0	—	
20000	Goreu,* s-l, Carmarthen	1 0 0	1¼	1⅛ 1¼
20000	Gt. E. Foxdale, l, I. of Man (1l. sh)	0 18 0	—	
12000	Great Holway,* l, Flintshire	5 0 0	6	5 5½
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	
6000	Gt. Wheal Eleanor, t, North Bovey.	1 0 0	3	2 3
18000	Grosvenor, l, Holywell (£1 sh.)	0 15 0	—	
10000	Harehope Gill,* l, Durham (£1 sh.).	0 5 0	—	
6400	Harwood,* l, Durham	0 15 0	1	1
5000	Hush Eisteddfod Minera,* l	2 0 0	—	
200	Islay,* l, Scotland	28 0 0	—	
2500	Killaloe, sl, Tipperary‡	1 0 0	—	
6000	Killifreth, t, Chacewater	2 1 0	¼	⅛ ¼
25000	Kingston Con., s-l, Stoke Climsland.	1 0 0	—	
	Ditto, preference	1 0 0	⅜	¼ ⅜
12000	Ladywell,* l, Salop	2 10 0	1⅛	⅞ 1⅛
12000	Ditto, 10 per cent. pref., 1l. each	0 10 0	⅜	¼ ⅜
2500	Levant, c, t, St. Just	9 18 6	—	
25000	Llanrhaiadr, l, Montgomery*	2 0 0	—	
30000	Llanrwst,* l, Carnarvon	2 0 0	4¼	2½ 3
15000	Llwyn Teify,* s-l, Cardigan	1 0 0	—	
6000	Medlyn Moor, t, Wendron	1 17 4	2	2
3500	Mellanear Copper, Hayle*	2 0 0	2½	2¼ 2½
6500	Ditto	1 15 0	2	1¾ 2
1000	Melyndwr, l, Cardigan*	3 0 0	¾	¼ ¾
11000	Monydd Gorddu, l, Cardigan*(Red.)	5 0 0	4	1½ 2½
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	
15000	Nascent Copper*	1 0 0	—	
4525	New Bronfloyd,* l, Cardigan (5l. sh.)	3 10 0	—	
20000	New Consols, s,a (in liquidation)	—	—	
8000	New Dolcoath, t, c, Camborne*	3 0 0	1¼	1⅛ 1¼
20000	New East Foxdale, s-l, Isle of Man.	0 15 0	—	
16000	New Fowey Consols, t, St. Blazey*.	3 0 0	2	1½ 2
1492	New Hendra, t, Breage	3 9 0	—	
3200	New South Merllyn, l, Flint*	2 10 0	1	¾ 1
5000	New Wheal Emma, c, Buckfastleigh	2 0 0	—	
4000	North Cornwall, l, Cornwall	5 0 0	5¼	5 5¼
17000	North Laxey,* Isle of Man	2 0 0	⅜	¼ ⅜
2000	North Levant, t, c, St. Just‡	12 2 0	—	
20000	North Prince Patrick,* l, Holywell.	1 0 0	…	
5936	North Treskerby, c, St. Agnes	4 7 10	—	
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
2500	Old Tincroft, c, t, Lelant*	4 0 0	4	3 4
6400	Oola Hills,* s-l, Limerick	5 0 0	—	
12000	Pandora,* l, Carnarvon	2 0 0	1⅛	1 1⅛
30000	Panty Mwyn,* l, Mold (8794 iss.)	2 0 0	2	2 2
16923	Parys Mountain,* c, Anglesea	3 0 0	¼	⅛ ¼
4000	Pateley Bridge, l, Yorkshire	5 0 0	2¼	2 2¼
30000	Perkins Beach, l, Shropshire	1 0 0	1¼	1 1¼
12000	Plynlimmon, l, Llanidloes*	2 0 0	¾	¾
648	Polrose, t, Breage	21 0 0	—	
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	⅜	¼ ⅜
2000	Prideaux Wood, t, Llanivery	5 0 0	—	
5182	Prince of Wales, c, Calstock‡	2 4 0	⅜	¼ ⅜
10000	Red Rock,* l, Cardigan	2 0 0	2⅛	2 2⅛
6000	Relistian Consols, c, Gwinear	0 10 0	⅜	¼ ⅜
15000	Rookhope, l, Durham*	1 10 0	1⅛	1 1⅛
5000	Silvercross,* c, t, Marazion	1 0 0	⅜	¼ ⅜
4200	Snowbrook, s-l, Montgomery	5 0 0	5¼	5⅛ 5¼
?000	So. Cwmystwith, l, Cardiganshire.	2 0 0	3⅛	3 3⅛
6000	South Darren, l, Cardigan*	1 10 0	—	
512	South Dolcoath, c, t, Redruth	12 5 0	1⅛	1 1⅛
5000	So. Molton Cons., s-l, No. Devon	0 2 0	1	¾ 1
18000	South Roman Gravels, l*	1 10 0	¼	⅛ ¼
6000	South Roskear, t, c, Camborne	6 10 0	5	4 5
6000	South Tolcarne, t, c, Camborne	1 14 0	¼	⅛ ¼
937	South Wheal Crofty, c, Illogan	38 19 10	9	8 9
4500	South Wh. Frances, c, Illogan†	7 12 4	2½	2¼ 2¾
8000	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
10000	St. Patrick, l, Halkin, Holywell*	1 0 0	1	⅜ ⅝
6000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
16000	Sunnyside,* l, Durham	2 0 0	2¼	2 2¼
30000	Talybont, s-l, Cardiganshire	1 0 0	1¼	1 1¼
6400	Teesdale,* l, Durham	1 0 0	⅞	¾ ⅞
14000	Teign Valley, l, bar., Bridford	1 0 0	—	
10000	Temple, l, Cardigan*	1 0 0	2¼	1¾ 2¼
10000	Tolgus Consols,* c, Redruth	5 0 0	5½	5 5½
12000	Treheigh Consols, s-l, St. Ive	0 9 0	⅜	¼ ⅜
5000	Treleigh Wood, t, Redruth	6 1 0	—	
547	Treiyon Consols	15 0 0	⅜	¼ ⅜
12000	Trethellan, s-l, Crantock*	2 0 0	—	
640	Truro*, l, Nerquis, Flintshire	10 0 0	—	
10000	Tyn-y-Fron,* l, Cardigan	1 0 0	1⅛	1 1⅛
20000	Van Consols, l, Llanidloes*	2 10 0	⅜	⅜ ⅝
1000	Vaughan*, l., Cardiganshire	10 0 0	—	
12000	West Assheton, l, Carnarvon	1 0 0	1	¾ 1
6000	West Basset, c, Illogan†‡	6 0 0	2	1½ 1¾
5500	West Combmartin, s-l, North Devon	1 0 0	⅞	⅝ ⅞
7000	Ditto	0 2 6	¼	⅛ ¼
3000	W. Craven Moor, l, Pateley Bridge*.	10 0 0	11	10 11
5000	West Godolphin, t, c, Breage	2 6 0	2½	2 2½
12000	West Goginan,* Cardiganshire	2 0 0	¾	⅛ ⅜
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
3000	West Mary Ann, l, Menheniot	0 3 6	1	¾ 1
50000	West Milwr, s-l, Flint	1 0 0	—	
5000	West of England Granite Company.	2 0 0	2	2
20000	West Pateley Bridge, l, Yorkshire	1 0 0	2¼	1½ 2
1000	West Roskear,‡ s-l, bl, c, Camborne.	2 0 0	15	10 15
12000	West Tankerville,* l, Salop	3 0 0	1	¾ ⅞
3000	Ditto, 15 per cent pref.	3 0 0	2	1¾ 2
15000	West Treasvean,* c, t, Gwennap	1 0 0	1⅜	1⅛ 1⅜
3000	West Wheal Peevor, t, Redruth	0 10 0	—	
600	West Wheal Seton, c, Camborne†	47 0 0	22	20 22
6000	Wheal Agar, c, Illogan	12 0 0	4¼	3¾ 4¼
512	Wheal Basset, c, Illogan‡	22 2 6	13	10 12
8000	Wheal Coates, t, St. Agnes	2 0 0	2	1½ 2
2635	Wheal Comfort, c, Gwennap	1 5 0	5	4½ 5
6000	Wheal Crebor, c, Tavistock	4 1 0	2	1½ 2
5179	Wheal Grenville, c, Camborne*	2 18 6	3⅛	3 3⅛
13000	Wh. Mary Hutchings,* t, Plympton‡	1 18 6	—	
8000	Wheal Peevor, t, Redruth	6 7 6	6	4½ 5½
12000	Wheal Russell, c, Tavistock	2 1 6	⅜	¼ ⅜
4098	Wheal Uny, t, s. Redruth	13 11 6	1	¾ 1
480	White Cliff,* l, Llanrwst	4 0 0	—	

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate; s-l, silver lead; t, tin; z, zinc.

* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	
£100	Abbot, John, and Co. [L.]	£75 0 0	
15	Albion Steel and Wire Co. [L.]	14 0 0	9
5	Alltami Colliery Co. [L.]	5 0 0	5
100	Ashbury Co. [L.]	90 0 0	1⅛
10	Bagnall, John, and Sons [L.]	10 0 0	55
10	Benhar Coal Co. [L.]	10 0 0	7
50	Bilbao Iron Ore Co. [L.]	50 0 0	1⅛
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0	19
4	Blaen Cwmbach Coal Co. [L.]	4 0 0	
50	Blaenavon Iron and Steel Co. [L.]	50 0 0	
100	Bolckow, Vaughan, and Co. [L.] A	50 0 0	
50	Bowling Iron Co. [L.]	50 0 0	2⅜
50	Britannia Ironworks [L.]	36 0 0	
50	Brown, Bailey, and Dixon [L.]	40 0 0	
100	Brown, John, and Co. [L.]	70 0 0	10
5	Cakemore Colliery Co. [L.]	5 0 0	11
100	Cammell and Co. [L.]	80 0 0	3
20	Cannock and Huntington Coal [L.]	6 0 0	7
10	Cardiff & Swansea St. Coal Co. [L.]	9 0 0	2
10	Cardigan Steel and Wire Co. [L.]	8 10 0	¼
10	Central Swedish Iron and Steel [L.]	10 0 0	
5	Chapel House Colliery	5 0 0	1
50	Charlton Iron Co. [L.]	50 0 0	2⅛
50	Chatterley Iron Co. [L.]	45 0 0	13
10	Chillington Iron Co. [L.]	10 0 0	26
1	Clee Hill Colliery Co. [L.]	1 0 0	7
10	Consett Iron Co. [L.]	7 10 0	
1	Consett Spanish Ore [L.]	1 0 0	11
50	Cooke, William, and Co. [L.]	40 0 0	¼
20	Darlington Iron Co. [L.]	12 10 0	32
50	Davy Brothers [L.]	22 10 0	12
5	Diamond Fuel Co. [L.]	5 0 0	5
32	Ebbw Vale Co. [L.]	20 0 0	
100	Fox, Samuel, and Co. [L.]	80 0 0	20
10	General Mining Ass. [L.] (£1 returned)	9 0 0	24
20	Great Western Coal Co. [L.]	17 0 0	2
2	Gwyngwillim Colliery Co. [L.]	2 0 0	
15	Hopkins, Gilkes, and Co. [L.]	11 0 0	
50	Knowles, Andrew, and Sons [L.]	17 0 0	7¾
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0	1⅛
5	Littledean Woodside Coll. Co. [L.]	5 0 0	2 di
50	Llynvi, Ogmore, & Tondu Co. [L.]	50 0 0	
10	Lydney and Wigpool Iron Ore [L.]	8 5 0	7
10	Marbella Iron Ore Co. [L.]	10 0 0	10
6	Mersey Steel and Iron Co. [L.]	5 0 0	7⅛
10	Midland Iron Co. [L.]	5 0 0	
5	Mold Argoed Colliery Co. [L.]	5 0 0	¼ d
10	Monkland Iron and Coal Co. [L.]	10 0 0	3
4	Mwyndy Iron Ore [L.]	3 10 0	7½
100	Nant-y-Glo and Blaina (8 p.c. pref.)	100 0 0	20
3	Nerbudda Coal and Iron [L. & Red.]	2 0 0	1
20	New Sharlston Collieries [L.] Pref.	20 0 0	17
10	Newport Abercarn Coal Co. [L.]	10 0 0	4
10	Northmptn. Coal, Iron & Wagon [L.]	8 0 0	
10	Northfield Iron Co. [L.]	8 0 0	3⅛
1	Norton Green Coal Co. [L.]	1 0 0	
35	Palmer's Shipbuilding and Iron [L.]	28 0 0	16
100	Parkgate Iron Co. [L.]	65 0 0	10
20	Patent Nut and Bolt Co. [L.]	14 0 0	6½
20	Patent Shaft and Axletree [L.]	10 0 0	¼
20	Pelsall Coal and Iron [L.]	15 0 0	13¾
50	Phœnix Bessemer Co. [L.]	40 0 0	
50	Rhymney Iron Co. [L.]	50 0 0	29
10	Richards and Co. [L.]	10 0 0	
100	Sandwell Park Colliery Co. [L.]	100 0 0	
50	Ditto New	10 0 0	
50	Shotts Iron Co. [L.]	50 0 0	18⅛
100	Sheepbridge Iron and Coal [L.]	55 0 0	46
50	Silkstone & Dodworth Cl. & Iron [L.]	27 0 0	10
20	Skerne Ironworks [L.]	20 0 0	
50	Somorrostro Iron Co. [L.]	50 0 0	14⅛
25	South Wales Coal Co. [L.]	21 0 0	
100	Staveley Iron and Coal Co. [L.]	60 0 0	6⅛
100	Ditto ditto New	10 0 0	36
10	Swansea Valley Steam Coll. Co. [L.]	6 0 0	4
100	Thames Iron Company	100 0 0	
50	Tredegar Iron and Coal Co. [L.]	20 0 0	11
25	Ditto B. shares	25 0 0	31
20	Ulverston Mining Co. [L.]	12 0 0	5
10	Vancouver Coal [L.]	8 0 0	½ di
100	Vickers, Sons, & Co. [L.]	100 0 0	31
50	Welsh Ironworks Co. [L.]	50 0 0	
25	W. Cumberland I. and Steel [L.]	30 0 0	13
10	West Mostyn Coal [L.] (12 p.c.pref.)	5 0 0	
5	West Swansea Colliery Co. [L.]	5 0 0	
10	Whitehaven Iron Co. [L.]	10 0 0	
100	Wigan and Whiston Coal Co. [L.]	70 0 0	
100	Wigan Coal and Iron Co. [L.]	25 0 0	

WAGON COMPANIES.

Shares.	Company.	Paid.	
10	Birmingham Wagon Co. [L.]	10 0 0	10⅛
10	Ditto, 2nd issue	4 0 0	3⅛
10	Ditto, pref., 6 per cent.	10 0 0	12
20	British Wagon Co. [L.]	10 0 0	par
10	Gloucester [L.]	10 0 0	⅛
10	Ditto, 5th issue	5 0 0	1⅛
10	Met. Rail. Car. and Wagon Co. [L.]	5 0 0	3⅛
5	Ditto, pref., 6 per cent.	5 0 0	6
10	Midland	10 0 0	7
20	North Central Wagon Co.	20 0 0	27⅛
5	Rail. Car. [L.] (Oldbury)	5 0 0	6
5	Ditto, pref., 6 per cent.	5 0 0	5⅛
20	Sheffield Wagon Co. [L.]	15 0 0	3⅛
10	Yorkshire Wagon Co. [L.]	10 0 0	4⅛

TELEGRAPH COMPANIES.

Shares.	Company.	Paid.	
"St."	Anglo-American	100 0 0	66⅛
10	Brazilian Submarine	10 0 0	6⅛
20	Direct United States Cable	20 0 0	13⅛
10	Eastern	10 0 0	7⅛
10	East. Exten., Australia and China	10 0 0	7⅛
10	Great Northern	10 0 0	7⅛
25	Indo-European	25 0 0	19
10	Mediterranean Extension	10 0 0	3⅛
8	Reuters	8 0 0	9
Stk.	Submarine	100 0 0	230
10	West India and Panama	10 0 0	3⅛
20	Western and Brazilian	20 0 0	4⅛
$1000	Western Union, 7 per cent. Mort. Bonds	$1000	111

MISCELLANEOUS.

Shares.	Company.	Paid.	
100	Ang. Virginian Freehold Land Bonds	100 0 0	
Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0 0	30
25	Australian Agricultural	21 10 0	91
25	Austral. Mort. Land and Finance [L.]	5 0 0	4⅛
10	Avonside Engine [L.]	7 0 0	4
Stk.	Baltimore and Ohio, 6 per cent.	100 0 0	107
10	Brighton Aquarium [L.]	10 0 0	10⅛
Stk.	Cent. of New Jersey Con. Mort.	100 0 0	67
Stk.	Cent. Pacific of Calif., 1st Mort. 6 p.c.	100 0 0	105⅛
25	City of London Real Property [L.]	12 0 0	1⅛
25	Copper Miners of Eng. (7 p. c. pref.)	25 0 0	
5	Diamond Rock Boring	4 10 0	3⅛
15	English and Foreign Credit	8 0 0	
16	Fore Street Warehouse [L.]	14 0 0	11
15	Foster, Porter, and Co. [L.]	10 10 0	10⅛
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0	
5	Kit Hill Tunnel [L.]	1 0 0	1
17	Hudson's Bay Company	17 0 0	10⅛
10	Huntington Copper and Sul. Co.	9 0 0	8
Stk.	Illinois Central, $100 shares	100 0 0	77
Stk.	Illinois & St. Louis Bridge, 1st Mort.	100 0 0	93
Stk.	Ditto, 2nd Mort., 7 per cent.	100 0 0	53
Stk.	Illinois Cent. Sinking Fund, 5 p. cent.	100 0 0	93
Stk.	Ditto, 6 per cent.	100 0 0	108
7½	Imperial Credit [L.]	7 10 0	7⅛
—	Ditto, Surplus Certificate	—	5
Stk.	Lehigh Val. Con. Mort., A, 6. p. cent.	100 0 0	90
10	Milner's Safe [L.]	10 0 0	7⅛
25	National Discount [L.]	5 0 0	9
Stk.	N. Cent. Rail. Con. Mort., 6 per cent.	100 0 0	84
10	Pawson and Co. [L.]	6 0 0	⅛
50	Peninsular and Oriental Steam	50 0 0	58
Stk.	Pennsyl. Gen. Mort. 6 p. cent., 1910.	100 0 0	104
Stk.	Ditto, Con. Sink. Fund, 6 p. ct., 1905	100 0 0	92
Stk.	Scottish Aust. Investment Company.	100 0 0	185
Stk.	Ditto, 6 per cent. Preference	100 0 0	120
10	Silber Light (ord. sh.)	10 0 0	
20	Suez Canal shares	20 0 0	
12	Telegraph Construc. & Mainte. [L.]	12 0 0	37
5	Ditto, Second Bonus Three per Cents	5 0 0	3
10	Tharsis Sulphur and Copper Co.	10 0 0	22
Stk.	Union Pacific Land Grant, 1st Mort.	100 0 0	103
Stk.	Union Pacific Railway, 1st Mort.	100 0 0	104

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